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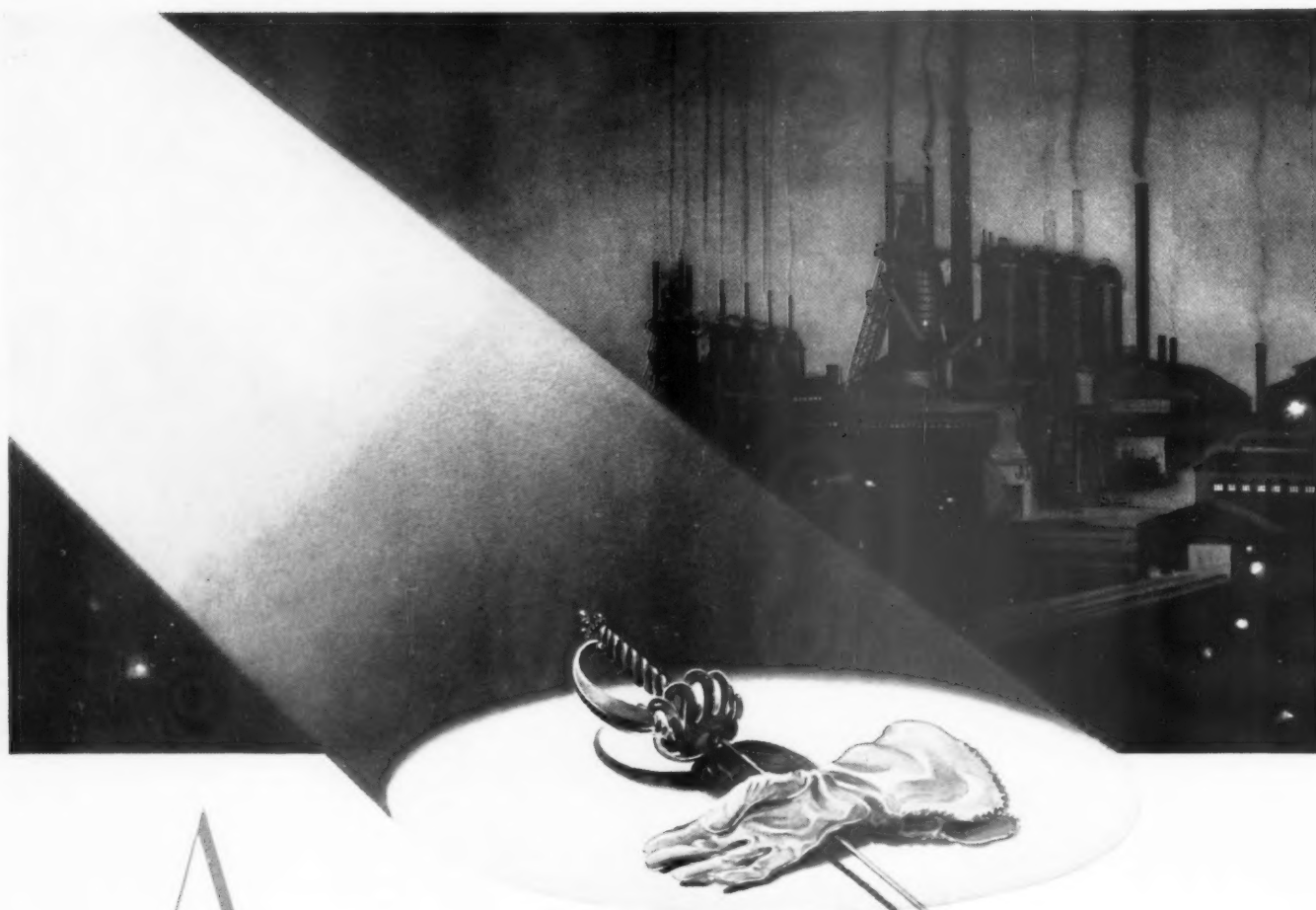
# *The Executive* **PURCHASER**

A NATIONAL PUBLICATION DEVOTED TO  
PURCHASING AS AN EXECUTIVE FUNCTION  
IN CORPORATION MANAGEMENT



THE FANTASTIC FUTURE—SEE PAGE 9

Photo by courtesy of Lincoln Electric Co., Cleveland



# A GREATER REPUBLIC STEEL CORPORATION *accepts the challenge of industry . . .*

With assets increased by more than \$40,000,000, with greatly enlarged reserves of northern iron ores, with advantageous terminal facilities on the Great Lakes and strategically located additional plants, a greater Republic Steel Corporation accepts the challenge of every steel-using industry.

The merger of Corrigan-McKinney Steel Company and Newton Steel Company with Republic Steel Corporation is one of far-reaching significance. Corrigan-McKinney Steel Company brings to Republic tremendously increased facilities for the production of high grade pig iron and steel. Newton Steel Company has long been an important source of supply for quality sheets.

Even before the acquisition of these companies, Republic was the world's largest producer of alloy steels, including the famous Agathon line, ENDURO perfected stainless steels and the new Republic Double Strength high tensile steels that are lightening the weight of nearly every type of transportation unit. Republic has been the sole maker of rust-resisting Toncan Iron for more than 27 years—the pioneer in the development of electric resistance welded pipe—the maker of Sil-con low-loss electrical sheets and coiled strip.

In addition to making these trade-marked products, Republic continues to occupy an important place among the producers of high quality plain carbon steels in practically all commercial shapes.

A greater Republic Steel Corporation accepts the challenge of industry—looks optimistically to the future—keeps pace with the increasing demand for ever better steels—steels lighter in weight—steels of greater strength—steels more resistant to corrosion and high temperatures—steels that strike a new note in beauty—steels more dependable, longer lasting and more economical.



## Republic Steel CORPORATION

GENERAL OFFICES . . . . . CLEVELAND, OHIO

ALLOY AND CARBON STEELS  
TONCAN IRON • STAINLESS STEEL  
PIPE AND TUBULAR PRODUCTS  
BARS AND SHAPES • PLATES  
HOT AND COLD ROLLED STRIP  
HOT ROLLED, COLD ROLLED  
AND SPECIAL FINISH SHEETS  
TIN PLATE • WIRE PRODUCTS  
NUTS, BOLTS, RIVETS, ETC.  
DIE ROLLED PRODUCTS



LAPPING TRANSMISSION GEARS



DIE GRINDING

## In the AUTOMOTIVE INDUSTRY . . .

### Norton Grinding Wheels and Abrasives

**A**UTOMOTIVE production men are keen judges of grinding wheel performance — their widespread preference for Norton Wheels is based on definite reasons. Some of them are:

**1. A complete line of wheels:**

From tiny mounted points for intricate die work to 42" diameter crankshaft wheels—wheels that are right for the job in abrasive, bond, grain, grade and structure.

**2. Expert engineering service:**

It's not enough to have a variety of wheels—there must be men who know how to select and apply them. There are trained Norton men in the field and back of them are the engineering and research facilities of the Worcester organization.

**3. Large wheel stocks and manufacturing facilities:**

In Detroit, Chicago, and Cleveland there are well-stocked Norton warehouses to meet the rigid delivery requirements of the automotive industry. And back of these local warehouses is the Worcester plant\* with its mammoth stocks and its modern manufacturing equipment.

\*Only 16 hours from Detroit by express—44 by freight.

**NORTON COMPANY**  
WORCESTER, MASS.



SPLINE SHAFT GRINDING



GRINDING CRANKSHAFTS



GRINDING VALVE FACES



GRINDING AXLE SHAFTS

W52

# NORTON ABRASIVES



# F. O. B.

## [Filosofy of Buying]

### Resolved:

(A. Original draft, January 1)

1. To read all the prognostications of the experts, and to base my 1936 buying policy upon their considered judgment.
2. To place my faith in the salesmen who are eager to take care of my interests as their very own.
3. To draw up a set of specifications, that my suppliers may know exactly what I want.
4. To devise a system to insure that every salesman will be cordially admitted to an interview within a reasonable time.
5. To make "Co-operation" my motto in dealing with other departments.
6. To read THE EXECUTIVE PURCHASER every month.

(B. Revised draft, January 15)

1. To get all the facts I can, and to form an opinion of my own on business trends. It may be wrong, but at least it will be consistent and I will know the reasons why.
2. To place no order without inviting competition.
3. To test each incoming shipment, that I may know what I am getting.
4. To devise a system to insure that salesmen will be painlessly ejected after a reasonable interview.
5. To invite a little co-operation from other departments of the company.
6. To see that my assistants and associates also read THE EXECUTIVE PURCHASER.

★ ★

**H**OARY, but still good for a laugh, is the story about the salesman who dashed into the Sheriff's office shouting, "I've killed a purchasing agent," only to be told, "If you've come to collect the bounty, you'll have to see the Game Warden, in the next office."

More impressive, because it bears the stamp of authenticity, is the experience of Joseph Cockrell, who, according to an Associated Press report, was haled before a St. Louis Circuit Court jury on December 7th, charged with firing a shotgun and wounding one Robert Bock, a persistent brush salesman, when the latter demanded to see "the lady of the house." After due deliberation, the jury decided that Mr. Cockrell's act warranted only the reprimand: "Go on home and be a good boy."

**I**T'S an ill wind that blows nobody good. With most manufacturers genuinely concerned over the mandatory employee insurance which now becomes an item of product cost, our contemporary *Modern Stationer* shrewdly observes that "The Social Security Act, effective January 1, calls for strict record keeping of numerous details. . . . This requirement opens a new and large market for record forms. . . . To stimulate sales, stationers should bring the act to the attention of their customers. . . . Full details on how to cash in. . . . etc. etc."

★ ★

Curious Cuthbert wonders why it is that supposedly hard-headed purchasing agents do not insist on at least a twenty-four-hour guarantee on the mechanical toys they carry home to the youngsters at holiday time.

★ ★

### P. A's Mother Goose

Specification is vexation,  
Trade names are just as bad,  
The inspector's fee irritates me,  
And rejections drive the vendor mad.

★ ★

Unique among the greetings that came to F.O.B. during the recent holiday season is a striking and artistic reprint of Elbert Hubbard's classic definition of The Typical Buyer, sent with the "condolences" of Bill Kerriek of Louisville, Purchaser for the Mengel Company and 7th District Vice President of N.A.P.A. There are just two types of persons who can afford to broadcast that sort of a statement: (1) those who know nothing about p.a's, like Mr. Hubbard, and (2) those who are so far removed from the specification as to demonstrate its utter fallacy, like Bill Kerriek.

★ ★

The President is now urging lower bank interest on real estate loans. Those of us who have tried to negotiate such a loan during the past couple of years have found the banks' interest in the matter to be practically nil.



Compare this new  
bond paper **VALUE...**

**PRESENTING...**

**SEND FOR  
DEMONSTRATION  
AND SAMPLE BOOK  
TODAY**

**A**DIRONDACK BOND . . . an economical, watermarked business paper for letterheads, billheads, statements, office and factory forms, etc. . . . Twelve attractive colors for color identification systems, a complete range of weights (including substance 13 for air mail correspondence) and sizes, *with envelopes to match*. ADIRONDACK BOND's improved surface takes printing, ruling and typing to perfection. Standardize and economize with ADIRONDACK BOND.

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*An* **INTERNATIONAL** *Value*

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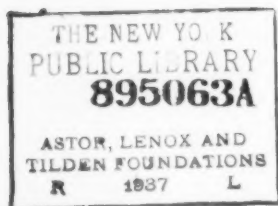
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# *The* **EXECUTIVE PURCHASER**

*The National Publication Devoted to Purchasing as  
an Executive Function in Corporation Management*

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*Published monthly by*

**ROGREEN PUBLICATIONS, INCORPORATED**  
623 East St. Clair Ave., Cleveland, Ohio

**A. R. GREEN** ..... Publisher  
**STUART F. HEINRITZ** ..... Editor  
**GEO. B. HOWARTH** ..... Advertising Manager

**ADVERTISING REPRESENTATIVES**

**GEO. B. HOWARTH**, 11 West 42nd St., Room 2810  
New York, N. Y.  
Telephone PENnsylvania 6-8239

**H. N. PICKETT**  
623 East St. Clair Avenue, Cleveland, Ohio  
Telephone MAIn 8000

*Member, Controlled Circulation Audit*



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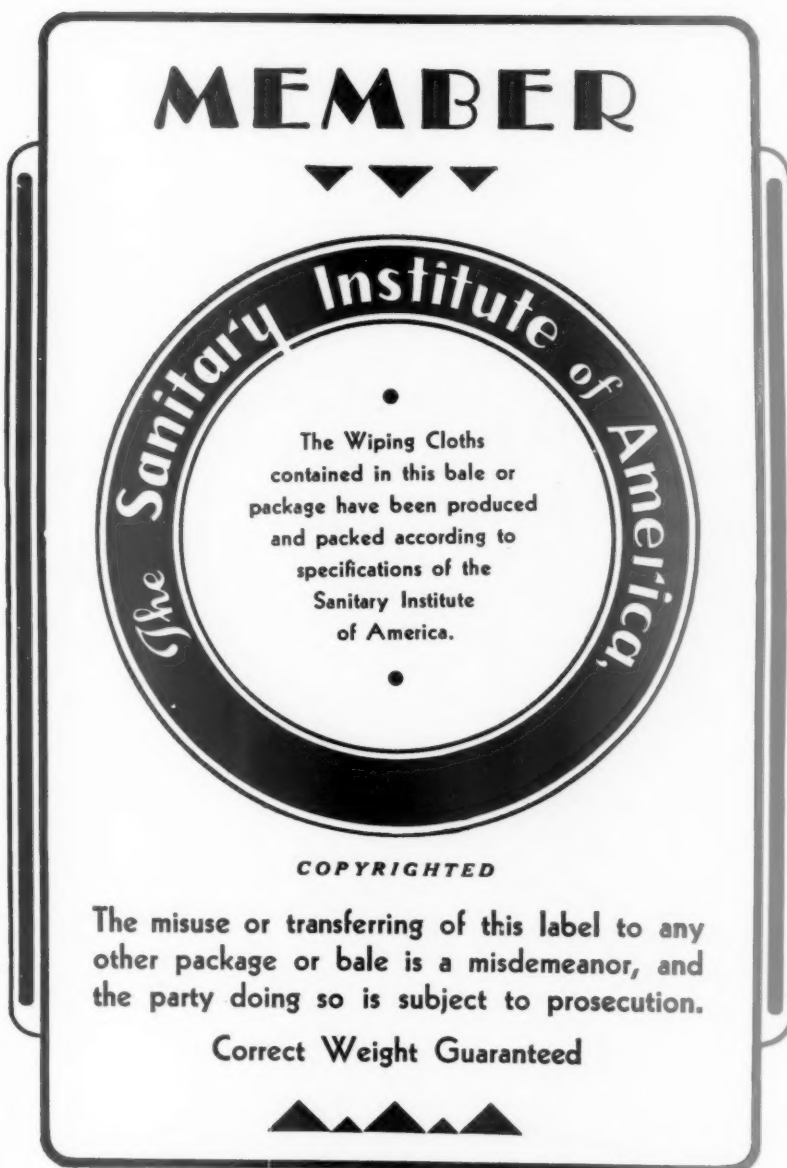
# DEMAND THIS LABEL

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### IT IS YOUR GUARANTEE OF

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- (2) Correct Weight
- (3) Uniform Packing
- (4) Fair Dealing . . .

The specifications covering products of Sanitary Institute members cover not only sterilization, but also size, texture and color of each recognized grade of wiping cloths. When you buy wiping cloths bearing the label shown here, you may be sure that the product conforms to approved standards of quality. For complete specifications, write to any member or to the Sanitary Institute of America, 1100 North La Salle St., Chicago, Illinois.



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**PITTSBURGH . . . Armstrong Sanitary Wipers Company,**  
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**ST. LOUIS . . . Wiping Materials, Inc.**  
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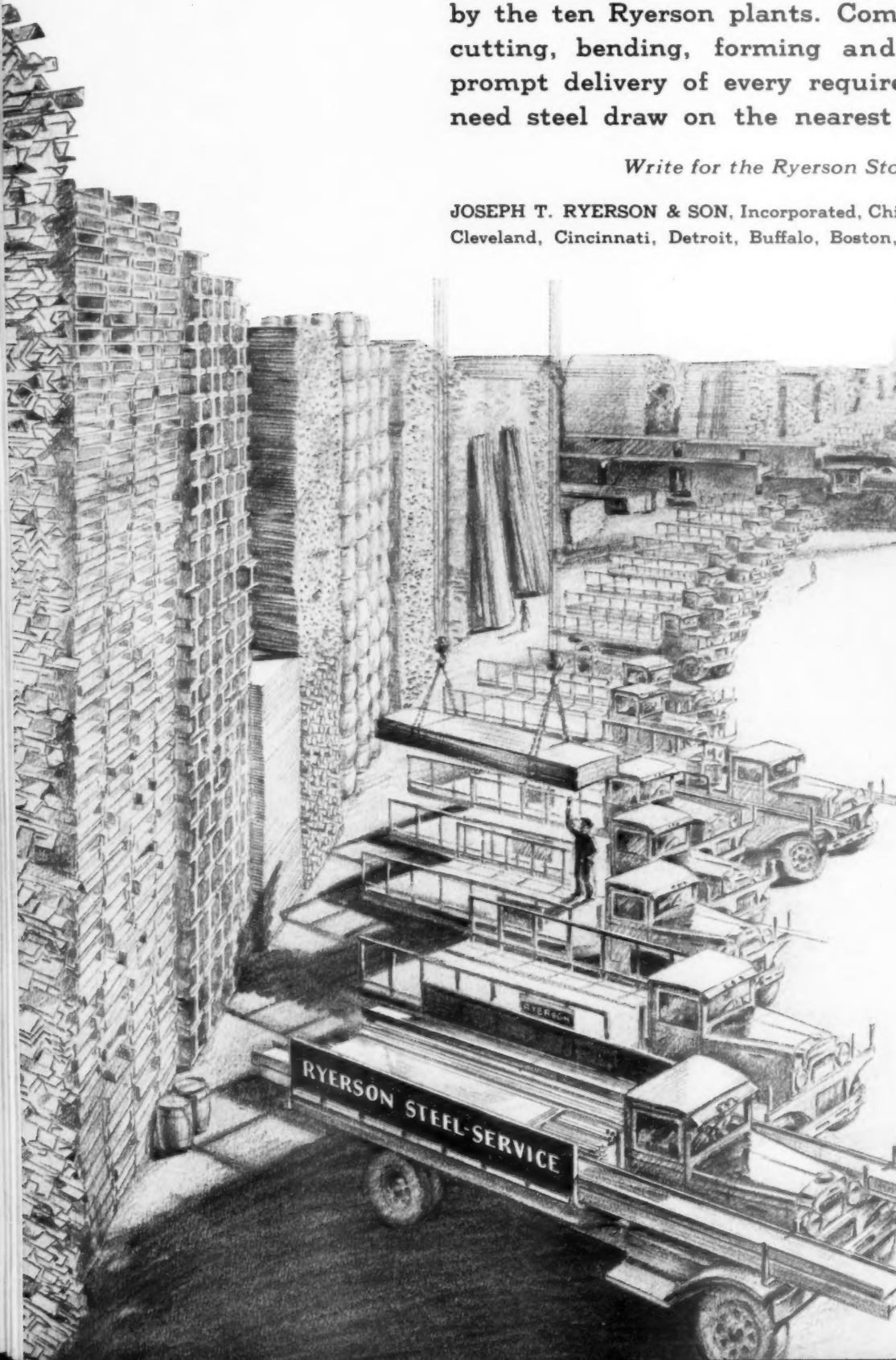
# Immediate Steel for 1936

**YOU CAN DEPEND ON RYERSON FOR IMMEDIATE SHIPMENT of the RIGHT STEEL FOR EVERY PURPOSE**

Row on row of steel--all kinds, shapes, and sizes--in stock ready to ship. More than ten thousand sizes and kinds of steel and allied products are carried by the ten Ryerson plants. Complete facilities for cutting, bending, forming and shipping assure prompt delivery of every requirement. When you need steel draw on the nearest RYERSON plant.

*Write for the Ryerson Stock List*

JOSEPH T. RYERSON & SON, Incorporated, Chicago, Milwaukee, St. Louis, Cleveland, Cincinnati, Detroit, Buffalo, Boston, Philadelphia, Jersey City.



## *Partial List of PRODUCTS Always in Stock*

STRUCTURALS

CHANNELS, ANGLES

HOT ROLLED BARS

HOOPS AND BANDS

PLATES, SHEETS

TEES AND ZEES

ALLOY STEELS,  
TOOL STEELS

HEAT TREATED ALLOY  
STEEL BARS

STAINLESS STEEL

COLD FINISHED  
SHAFTING

SCREW STOCK

STRIP STEEL,  
FLAT WIRE

MECHANICAL TUBING

RAILS, SPIKES,  
ETC.

BOILER TUBES  
AND FITTINGS

WELDING ROD

RIVETS, BOLTS

NUTS, WASHERS, ETC.

REINFORCING BARS

COPPER, BRASS, ETC.

# The Purchaser's Viewpoint

## PROPHETS AND PROFITS

ONE of the most senseless phenomena of modern commercial practice is the apparently irresistible New Year urge — more virulent than buck fever — to burst into print with a forecast of business probabilities over the ensuing twelvemonth. Regularly at this season the purchasing agent's desk is piled high with an accumulation of special releases from industrialists, economists, university savants, public officials, financial institutions, statistical organizations, trade associations, and the business press, setting forth various and sundry solemn opinions as to what the New Year may have in store for the industrial community.

Much of this opinion is doubtless well considered, and may be reassuring if not actually enlightening. But the very formality of the January 1 date line raises a very serious doubt as to the intrinsic worth of all this prophecy. It is a convenient, but not necessarily a logical date for the purpose. A rather close and extended inspection of business charts and records reveals no vital correlation between the critical points of commercial history and the change of the calendar year. Crops, fiscal periods, the seasonal fluctuations of many markets and industries, election days and changes in the complexion of political control which have come to play an important part in our economic life, seldom coincide with the change of the calendar. Even the annual models in such an industry as automobile manufacture, customarily identified by yearly date numbers, no longer bear any exact relationship since their public introduction at the Auto Shows has been moved back into November.

Psychologically, the appearance of a fresh calendar sheet is the signal for renewed optimism. We delude ourselves with the thought that the past can be erased and a new start made, forgetting temporarily that life in all of its phases is an unbroken sequence, a continuous process of development. Traditionally we make our new resolutions on the fantastic hypothesis (for it can not truly be called either faith or expectation) that human nature and will power can be changed overnight. Similarly the typical business forecast at this season is colored by the same aura of sentimental hope. If the course of personal conduct is so lightly affected by these formal resolves, how much less can we predict the course of events in which individual will

plays but a relatively minor role. And consequently the prophets seek refuge in meaningless generalization.

Practically, business — and the purchasing agent must perforce do likewise — has learned to budget its activities for a much shorter period, quarterly or monthly instead of on the annual basis. The short swing, quick adaptability to changing conditions and markets, has counted most heavily in commercial policy for the past several years. Contracts have tended to cover ever shorter terms, and are hedged about with so many readjustment clauses that the longer view is to a great extent an empty consideration. And to complete the absurdity of the picture, the contract period on those materials where yearly proposals are still entertained, has been mostly consummated in the two months preceding the flood of prescient announcements; a considerable proportion of the basic data on which these forecasts are predicated consists of purchasing activity that has actually taken place before the prophecy was composed.

This is not to be construed as an argument against vision and foresight in buying. Never were these qualities more essential to success. But the practical purchasing man, who values profits above prophets, knows that forecasting is a twelve-month job rather than a New Year's spree. The most he can hope to gain from this mass of gratuitous opinion and advice is the satisfaction of seeing how far it coincides with and confirms his own considered opinions of the moment, which must still be the foundation and the mainspring of his policies and action.

## BELATED COURT RULINGS

ONE of the issues which loom prominently in the impending national political struggle concerns the sanctity of the Constitution. This is not to be confused with the issue of Constitutional reform. Some of the most ardent champions in defense of the Constitution willingly recognize the desirability of certain changes in the regulations prescribed by that basic document.

Among such changes which would benefit business as a whole, and buyers in particular, would be the possibility of securing a Supreme Court



ruling on the constitutionality of legislative measures before they are promulgated as law, rather than the enforced delay incident to the presentation of an actual test case and following it through the courts to a definite decision.

For nearly three years, buyers have been plagued with this sort of legislation. The natural desire to be law-abiding and the patriotic urge to assist in the national program for industrial recovery have placed conscientious business men at an unfortunate disadvantage as compared with less scrupulous competitors who have based their actions on well-conceived doubts as to the valid force of some parts of the program. And frequently the man or the company trying to "play ball" has merely succeeded in incurring present financial loss and jeopardizing his position in the industry. That, to a large extent, was the story of non-compliance under NRA and eventual collapse of the program.

The current example is the Guffey Bill governing bituminous coal prices, passage of which was urged upon Congress despite the freely expressed doubts as to its constitutional standing. A test case instituted immediately on the passage of the Bill, more than four months ago, has not, at the present writing, resulted in a decision pro or con, and the industry is still in a turmoil. Meanwhile, expensive administrative machinery has been set up, which (according to experience with NRA) can not be dismantled without further long delay and expense. Surely it would be better to provide for earlier judicial consideration and to proceed on a more sound basis.

## TAXES AND COSTS

**A** MOVEMENT that is gaining considerable headway among manufacturers since a multiplicity of new tax levies are assuming greater importance as a factor of product costs, is the plan of segregating the amount of tax as a separate item on invoices. This month, for example, some 300,000 employers in New York State alone become liable for an amount equal to 1% of total pay rolls to meet the requirements of new unemployment insurance legislation, and must naturally figure that additional expense into their operating budgets, to be reflected, in turn, in their quoted prices.

The segregation of the tax item is not a new plan. It has been widely used in connection with recent processing taxes of dubious validity, where there existed a prospect of possible recovery of this item. It has long been customary to show the tax separately in the posted retail price of gasoline and theater tickets; it is separately collected on local retail sales; and it is indicated by the Internal Revenue stamps on playing cards and tobacco products. This has been a gesture of explanation

and an aid to revenue accounting rather than a program of protest. There is no reason to charge any other motives if the plan were to be applied on a more general scale. Tax-consciousness is a healthy condition. It is inexcusable to plead that this item of considerable intrinsic magnitude and great public interest should be deliberately concealed and glossed over by insistence on an all-inclusive blanket quotation.

Purchasing men, who habitually analyze price quotations into their component factors, will welcome such a forthright explanation of costs, and will be better able to evaluate relative prices and the comparative claims of prospective vendors if such a policy were generally adopted. Furthermore, they will find in the plan excellent insurance against the possibility of successive percentage mark-ups on gross costs that might otherwise substantially increase this burden by the time it has passed through one or more intermediate steps in the course of distribution. It is unreasonable to argue that a specific tax item of this nature is a proper basis for the calculation of profits or operating margins.

There is real danger, however, in such a proposal as that made by the National Association of Finishers of Textile Fabrics, advocating a flat charge of 1½% on all invoices "to cover the (Social Security) tax and other costs resulting from the new legislation." This proposal is prompted by the fact that the tax burdens of this Act vary widely among the different units of the industry, and the familiar old philosophy has been invoked that preaches "equalization of competition" by protecting the least favorably situated producer and denying to the more favorably situated units among buyers and sellers the privilege of using their legitimate advantages. In this respect it differs little from average costs, the basing point, and the more vicious forms of customer classification. It is self-evident that the determination of "a fair mark-up" that will satisfy the industry as a whole, must be a mark-up sufficiently high to cover the marginal producer in the field.

The addition of the actual tax item to an invoice is wholly legitimate. A flat percentage mark-up, nominally ascribed to this same cause, should not be tolerated by the Government or by the buyer.





# THE FANTASTIC FUTURE

This is the open season for prediction and prophecy regarding 1936, but there is much of significance in the less immediate future

●

The telescope of commercial vision is as necessary to progress and success as is the microscope used in the research laboratory

●

W. J. AUBURN, P. A.

The Gerrard Company, Inc.  
Chicago

I N the middle of the last century Jules Verne wrote with a bountiful imagination. Since then the submarine, *Nautilus*, from his *Twenty Thousand Leagues Under the Sea* has become hopelessly outclassed by huge undersea cruisers such as the French *Surcouf*, with heavy hidden guns, many torpedo tubes and periscopes, a hangar for a folding airplane, radio, huge crew, and possessed of a cruising radius even larger than Verne had imagined. The late Wiley Post girdled the globe in less than five days' flying time, far better than Verne's *Phileas Fogg*, who rushed *Around the World in Eighty Days* via elephant, railroad, steamboat and other less speedy forms of transportation. The propelling rockets used in Verne's *From the Earth to the Moon* are now being used in smaller form in Austria for projectiles to carry mail, and by Fritz von Opel in Germany in experiments with rocket cars, rocket automobiles and rocket trains. Verne may have predicted something fantastic in his time, but the majority of his predictions have become facts known in every walk of life today.

Transportation in the air — 230 miles per hour in military planes — has shrunk the time of encompassing the earth to a mere few days. Incredibly swift methods of communication — radio, radio telephony, and now television and radio photography — have brought foreign events, wars and catastrophes to our dinner tables or our easy chairs.

With these inventions and changes comes the fact that materials and products are changing too. There is a Vernesque touch to the new things on the market, things almost incredible to those of us who have read Jules Verne. Though the Frenchman is dead, there is a new prognosticator in the comic strips, Buck Rogers of the 25th Century. Rocket cars, disintegrators, killing rays and a transportation scheme that runs throughout the universe are pictured in a future that may be much closer than the 25th century. Being a "comic strip" does not lessen its seriousness.

So fast have these changes on our earth taken place that it is difficult to keep pace with them. In the space of a few decades the earth

seemingly has dwindled to a fraction of its former size. From conquest and exploitation of the earth's surface developments have gone *under the surface* and *into the air* above. This rapidity it behooves the purchasing agent to observe closely, for it is within the realms of chemistry and metallurgy — below and above the earth's surface — that new products and new processes are being evolved.

But how are these products of the future to affect our own manufactured goods? What are they, from whence will they come, and isn't it still too early to be thinking of them? The shortest answer is, "Radio, its telephony and photograph transmission, flight into the stratosphere, and the multitudinous products of organic chemistry are already in use before we could say a figurative 'Jack Robinson'."

## POWER

Power, which today is based either on water, coal, gas or oil,

## COVER PHOTO

NO mechanical robot conceived in the fevered imagination of a dreamer, but a skilled operative of the fast moving modern industrial world is this welder who is restoring the worn teeth of a huge drag-line bucket with new hard surfacing metal that will give the equipment fresh life and efficiency. Photo by courtesy of the Lincoln Electric Company, Cleveland.

may change suddenly with the advent of startling chemical announcement. Don't forget, that while you may be placid and interested in the *Present* of your job, some chemist is working on the new means of providing power that may revolutionize methods, just as the Wrights brought out the modern airplane that made the world smaller.

The controlled liberation of the vast reservoirs of subatomic energy may be released by chemists for untold or undreamed of power. That subatomic power is locked within the electronic systems of the atom, which is the basis of all elements in, of, and above the earth, in infinite quantities. The tireless atoms may become the servants of man sooner than we think.

The energy latent within the atoms of an ounce of water, Sir Oliver Lodge estimated, would produce power to lift all the sunken German ships at Scapa Flow and place them high and dry on land. The Parisian professor, Le Bon, asserts that the energy imprisoned within the smallest French coin is equal to eighty million horsepower.



#### Says Hi-Pressure Pete:

*I've taken plenty of P.A.'s out to lunch, only to learn that the way to a buyer's heart is not through his stomach but through his pocket-book.*

As small a quantity as one-seventieth of a grain of radium hurls into the air thirty millions of electrons per second, to say nothing of the Alpha particles emitted. It may not affect you *immediately*. But it may affect your son or grandson who will have to change his way of doing things. The possibilities are there. Scoffers have said countless times, "It can't be done," only to find that these "impossibilities" have become actual fact.

#### COSMIC FORCES

Prof. Millikan found the strength of the cosmic ray, extending from everywhere in space, either at midnight or at hottest noonday, to be far more powerful than our familiar X-rays. He found that the cosmic ray will pass through six feet of lead, whereas the most powerful X-rays pass through only a half inch of the same metal. These rays are one hundred and fifty times more powerful than X-rays, playing around us continuously. Harnessed properly they could well become the realization of the inventors' perpetual motion dream.

Experiments have been made in attempts to harness the heat of the sun; storing its heat and power to be used later. The influence of the moon on the tides, far-fetched though it may seem, is another force that is yet to be discovered and used. Even gravitation as a potent force may have possibilities. Any of these forces would be enough to change civilization more than it has been changed during the past thousand years. The possibilities to the purchasing agent for purchases of motive power for large and far-flung factories would be extremely important.

#### AIR TRAVEL

With the advent of increased airplane travel through the stratosphere, which the late Wiley Post endeavored to perfect, new metals, new ways of making flights safer and easier in spite of the present bundlesome oxygen suits, helmets

and tanks, will be found — oxygen cabins most likely. New materials to withstand tremendous speeds and strains and unbelievable pressures will come, for travel through the stratosphere is not far away. Metals that will stand the change of temperatures, pressures, flight, and yet make perfect media for fabrication, are on their way now, in alloys and new types of light metals. Invar, an iron-nickel alloy which neither expands nor contracts with changes of temperature may be used if light enough. Duraluminum, lighter than aluminum, is being used now. Chances are that even lighter ones will follow.

Fabricators of products in airplane lines are experimenting in these lines now. Fireproofing for planes and safety devices for landing were begun some years ago but are not yet perfected. New and cheaper motive power is considered; Diesel engines with petroleum fuel are the next idea to be made feasible. Possibly some of the new articles favorable to aviation may be applied to general industry. Since new industries attract new products, these industries bear watching by the ambitious purchasing agent.

The future will feature small planes for the use of the individual to take off from his own yard. The vertical-rising autogyro is the answer. Combination hangars and garages, with short runways for our private planes, will be built in back yards. The motor car industry will give up part of its huge sales to the aviation industry and the skies will be cluttered up with flyers and the weekends with accidents.

The *Graf Zeppelin* and its trips across the Atlantic to Brazil are mere forerunners of the coming ocean-going seaplanes and dirigibles. Floating landing fields of metal are already in construction, with repair shops, hotels, stores and refueling stations. Air express and freight will grow tremendously and the costs will be reduced. Deliveries of goods will be considerably

A decade ago Prof. Piccard and his stratosphere flights were regarded in the nature of a scientific freak. Today it is conceded that the fastest air lanes may traverse these high altitudes, and the data thus painstakingly sought by the National Geographic Society and Army Air Corps is eagerly awaited and studied by practical aviation men.

faster due to increased speeds. Industrial stocks of supplies can be reduced if deliveries are faster; good news for buyers.

### NEW PRODUCTS

Bonds between metals and powders or liquids are becoming familiar. Rubber bonded with metal becomes part of the integral piece. A new alloy makes tight and dependable joints between metal and glass and it may be machined, forged, brazed, drawn or punched. "Stretchable" lacquer finishes for elastic rubber goods are even now on the market. Aluminum paint, by a new process, becomes part of its companion metal. Chromium plate has replaced nickel plate and is far more successful in many applications. Rubberized stair treads, automobile steps and other metallic products covered with rubber are advocated; latex covered kitchen sink accessories are in a prominent rubber line now. Du Pont has recently announced synthetic rubber manufactured at one hundred degrees below zero.

Glass containers can now be replaced by seamless vessels of phenolic resin with a maximum resistance to corrosives and solvents, yet safe from breakage. Pipes and fittings are made of the same material. Paper milk bottles are being tried out in the East. Bakelite could be used in serving dishes, tableware for institutions, trays, lamp brackets, airplane furniture and fixtures. Solvents are being made non-inflammable. A viscose rayon sponge has just been introduced by an English firm in Kent.

Professor Friedrich Bergius of Germany is converting forests to

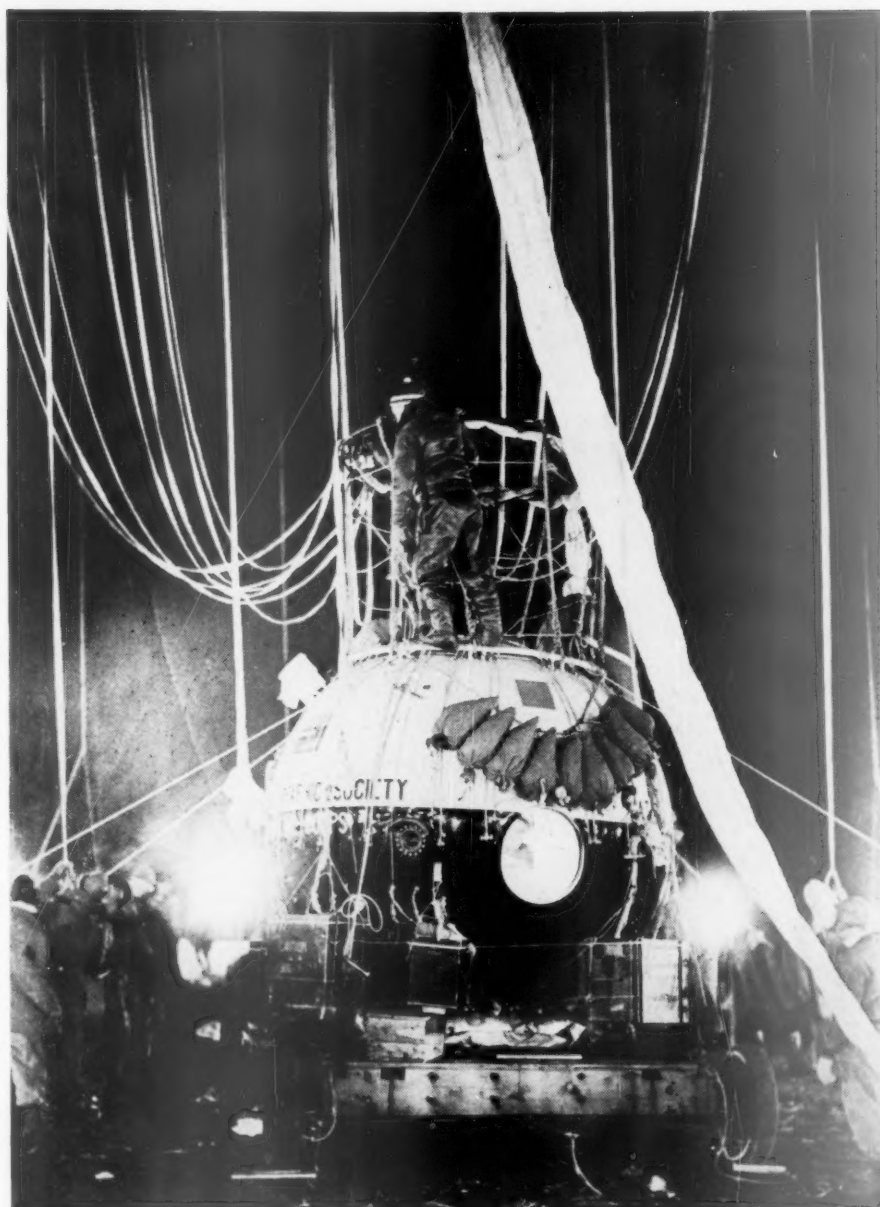


Photo copyright National Geographic Society, from Acme

sugar. It is not cane sugar, but the same sugar which is produced from corn starch. Low-grade timber, sawdust and waste lumber can easily be used for this purpose. An acre of forest land, it is estimated, will produce as much sugar as an acre of sugar beets. Paper and Solka are now being produced from similar wood pulp.

Petroleum yields alcohols of various types. Dr. James F. Norris states that we will see lacquers, imitation leathers, ebony-like plastics, artificial rubber, soaps, medicinals, drugs, anesthetics, and many more items from the petroleum bases. When the oil supply is gone, oil-bearing shales can be used.

Drugs will alleviate almost every

known variety of pain, just as procaine, novocaine and the barbituric acids in the operating room have aided in this decade.

Varieties of non-shatterable glass, in color, and with bending and molding qualities, will soon be on the market. Safer explosives, (although this is a threat to the extensive armament firms of Schneider, Skoda, Krupp, Vickers and Du Pont), electrical control apparatus (the country home at night will be protected by an "electrical curtain" which will notify the farmer of any unwanted intruder), heat-saving refractory brick, and perhaps even systems for cleaning the snow off the home walk and eradi-

*Continued on page 30*



# THE NEWS

## BETTER HOUSING

NEW YORK—Lagging behind the example of our European contemporaries, slum clearance and the erection of high-standard, low-cost housing facilities have heretofore been considered exclusively within the field of private enterprise and private capital in this country. Several such developments have been completed within recent years, notably the six-million-dollar Knickerbocker Village (See Fig. 1) accommodating 1600 families in the heart of New York on a scale to which the City had ceased to be accustomed. But private enterprise and capital have, perhaps necessarily, been less eager than the social demand. Last month the first such development accomplished under public auspices, with government funds and relief labor, was formally completed in this city, and is currently hailed as one of the outstandingly useful and commendable projects thus far resulting from the vast program of public expenditure. On the lower East Side, at Third Street and Avenue A, Mayor La Guardia dedicated eight new units, built around an open court, occupying only 41.6 percent of the land area, and providing indoor and outdoor play space for juvenile tenants. Laid out in small (mostly three-room) apartments, the rooms are of generous proportions, airy and light, finished with oak floors and metal trim, in startling contrast to the shambles which they replaced and which still occupy much of the neighboring area. Veering from the policies of earlier governmental housing programs which were based primarily on assistance to private individuals for home production and home ownership, the new undertaking is not intended to supplant that undertaking, but is conceived as a venture in the civic interest, addressed to a different group of the public, and embodying the principle (as in the case of schools, parks, hospitals, and libraries) that the interests of all the people require that the government do its part in the improvement of living conditions for those unable to undertake the problem of housing as an individual responsibility. It was further revealed that this was but the first of fifty-one similar projects, involving an aggregate expenditure of 135 million dollars of government money, and planned to provide homes for 25,000 low-income families at rents ranging from \$4.50 to \$7.50 per room per month.

## FRENCH NRA

PARIS—Though NRA may be thoroughly discredited at home, the distant view apparently retains some of

its pristine glamour, for the French Senate has within the past month revived M. Flandin's "Bill for Inter-professional Accords," originally passed last March by the Chamber of Deputies (See Fig. 2) but dormant since its sponsor was overthrown as Premier. The Flandin Bill is frankly inspired by and modelled upon our own Recovery Act, and with a fine disregard for more recent experience and developments the American industrial codes are cited anew in its favor.

An emergency measure, this bill which has been dangling in French legislative halls for the better part of a year is designed to adjust production to consumption for the duration of the depression by means of codes, which become compulsory upon an industry when (1) asked by a majority of the industry representing at least 2/3 of the companies and 3/4 of the total production, and (2) approved by an Arbitral Committee composed of representatives of government, employers, labor, the Bank of France, the commercial courts and national economic councils. The suggested code provisions follow in a general way those familiarized in NRA, including control of production, prices and marketing, shortening of working hours, and the mandatory provision that labor must not suffer under the rulings. Reminiscent of AAA is the provision for withdrawing surplus stocks from the market for storage until better demand develops.

## STABILIZED PRODUCTION

DETROIT—Bane of the automobile industry, (See Fig. 3) as of many another manufacturing enterprise, has been the seasonal nature of established buying habits, intensified by general management policies in the introduction of annual models, resulting in wide fluctuations in the rate of production activity and employment. The typical curve of sales and production in this field has reached its peak in April, dropping steadily during the last eight months of the year, with the third and fourth quarters substantially below the levels attained in the earlier months. That same pattern was followed for the first three quarters of 1935, but the decision to introduce new models in November instead of January completely altered the picture in the final quarter, which experienced a sharp advance, well up to the yearly average, firmly sustained, and carrying over into early 1936. The record of the past year shows only one really poor month—September—and an unprecedented condition of stabilization over the other eleven. The outlook for 1936 indicates that even greater regularity

# REEL

may be attained. Full production has not yet been reached on the new models, and dealers' stocks are low enough to give a substantial guarantee of sustained factory activity through February. It is estimated that fully 50 percent of the year's sales will be made in the last six months.

Greatest question is what will happen to the April peak. The consensus is that this will be brought more nearly in line with other months, being adversely affected by advance sales "out of season" but retaining the natural advantages and appeal that come with the advent of favorable motoring weather. A complete cycle of experience is needed before a final opinion can be hazarded, but for the time being, the effort at planned stabilization of marketing and production, spread over twelve months, appears to be successful.

## NAVAL PROGRAM

WASHINGTON—Failure to achieve any semblance of international accord on naval ratios, coupled with the continuing threat of war, have directed public opinion and legislative thought toward the serious consideration of greater armed forces, particularly in respect to the first lines of defense, in the air and on the sea. (See Fig. 4) Appropriations for defense for the present fiscal year amount to about 900 million dollars, our greatest national peace-time appropriation and the largest defense bill contemplated by any World power. At the present time, in accordance with the revised Federal budget, it is planned to spend only about 75 percent of that amount during the year, but international conditions may suggest the advisability of a more complete utilization of the funds.

Despite the tax burden represented by the enormity of this program, economic as well as military considerations are cited in favor of the stronger navy and air force. It is pointed out that if the increased personnel were to be recruited from those now idle and receiving various forms of assistance from public funds, the cost of maintenance would be compensated to a considerable extent by such savings, and would moreover result in immediate improvement in the general employment situation at the same time that the defense position is being strengthened. Meanwhile, the building program incident to an increase in these two arms of the service would be promptly reflected in shipyard and manufacturing activity and work back to the producers of steel and other essential materials.

*Photos by Acme and Ewing Galloway*



Fig. 1



Fig. 2

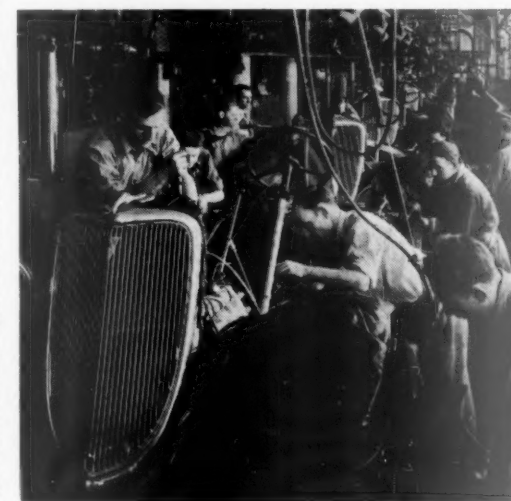


Fig. 3



Fig. 4

# The SCIENCE of ECONOMICAL GARAGE HEATING

Modern equipment puts the calories  
where they will do the greatest good

The object is not to melt the snow  
on the roof, but to keep motors warm

J. M. HANCOCK

Heating Engineer  
New York

**D**UE to the many peculiar conditions encountered in the average commercial garage, whether it be for the public service or the headquarters of an industrial truck or delivery fleet, the problem of heating this type of building economically requires considerable thought, research and experimentation.

Waste and inefficiency are the results of the more or less ordinary methods, due to the fact that the heat is frequently put just where it is not needed and causes an accumulation of excessive temperature overhead — good for melting snow from the roof but serving practically no other purpose.

The ideal method is the one which keeps the motors warm and ready to start instantly — the one that requires the least amount of fuel to heat the required zones or areas.

A typical case is shown in Sketch A. Heat is not required at the rear end of the cars that are backed up against the wall or in the space above overhead (as shown in Sketch

B). Keeping such spaces warm costs money in wasted fuel.

The zones or spaces that must be kept properly heated are the aisles and the front and under part of the cars. This cannot be accomplished by ordinary heating equipment.

The ideal method of heating a garage is as suggested in floor plan C, which in this case consists of two overhead heaters, possessing special characteristics, located above the

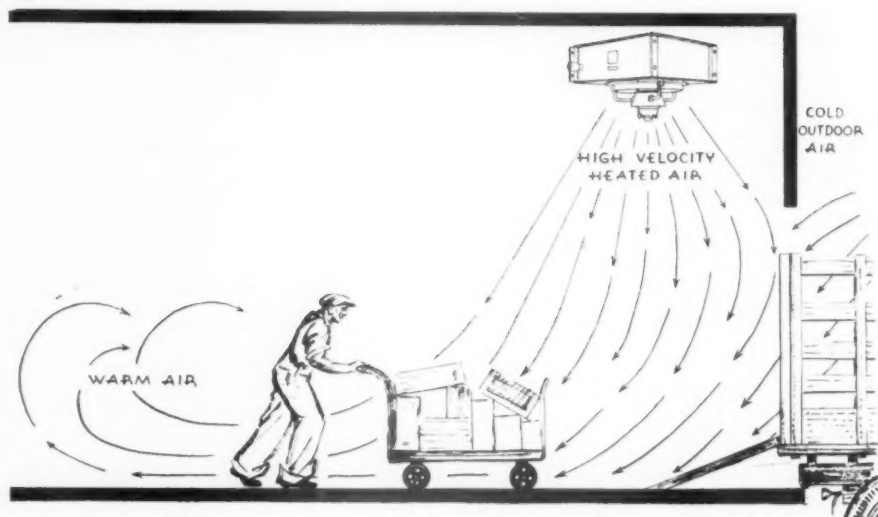
open aisles and one over the entrance door. They deliver a high velocity conical column of air downward and in such a manner that it strikes the floor and rolls along in every direction, as illustrated in sketches D and E, placing the heat just where it is most needed, thereby effecting a very substantial reduction in the cost of heating.

This system is known as the "Flood-Light" heating method.

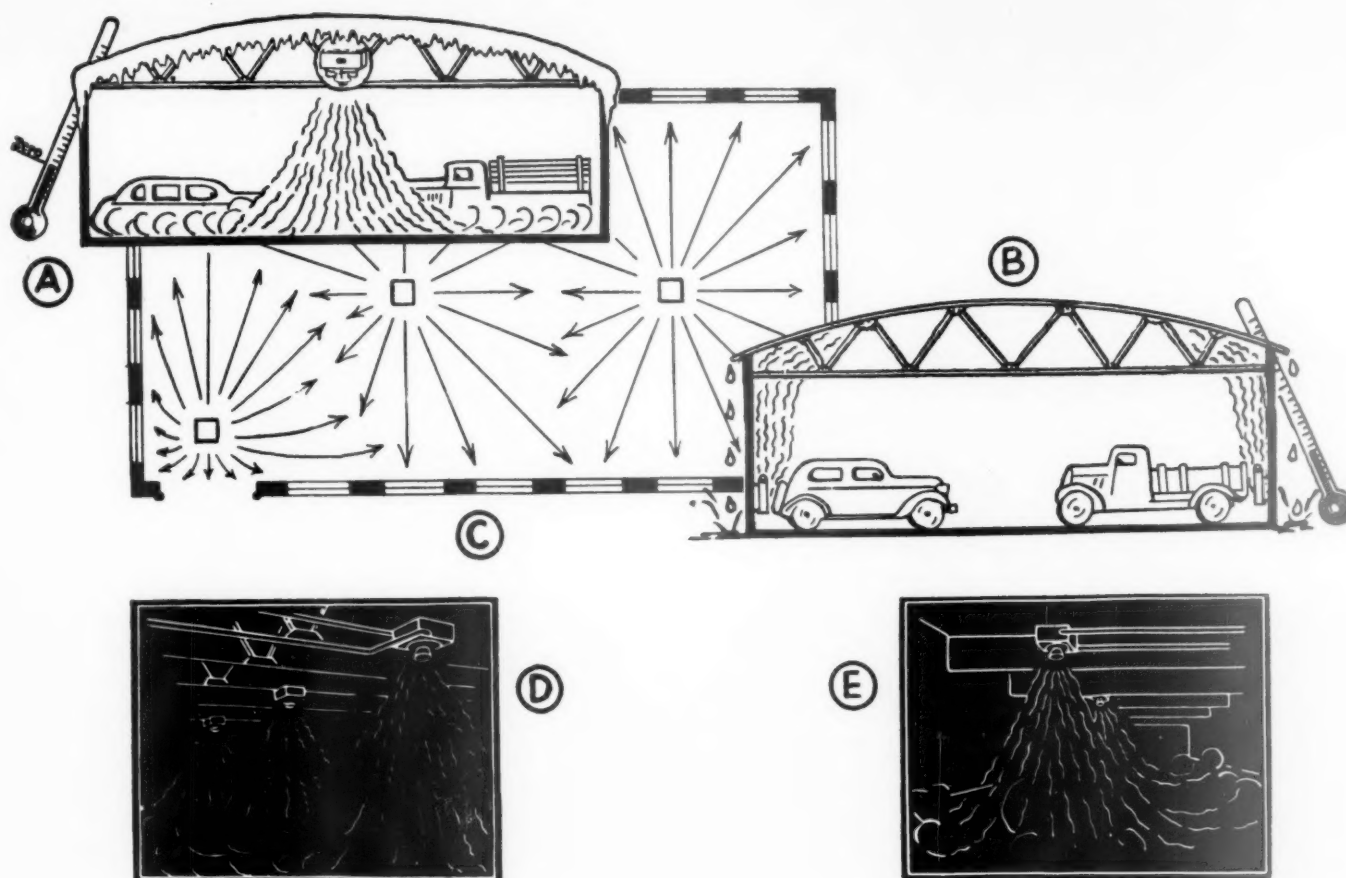
All the usual expensive installation cost is eliminated and the work can be done, as a rule, quickly and with ease (from blue prints and instructions usually supplied by manufacturers of such equipment).

It is impossible to stop outside air from entering when a large garage door is opened — more when the wind is blowing and less when it is not — but always enough to chill the entire space, not only immediately surrounding the door but clear back at remote points.

It is therefore most important to







heat this in-rush of cold air immediately as it enters the door — at the very point of entrance.

This can not only be perfectly accomplished by installing, at the door, a heater specially designed for this purpose, but the cold in-rush of air can actually be used to great advantage of the heating system.

The cold air entering comes into instant contact with the high velocity conical column of heated air, giving it added motion which carries this heated air back into the garage.

Such a system permits the maintaining of a fuel saving "safe temperature" at night and then quickly brings it up to a comfortable working temperature in the morning.

Such modern equipment can be conveniently adjusted to the job it is to do. The amount of heat may be reduced, though the air volume and velocity which gives it the penetrating effect remain unchanged. When boiler capacity is limited, it can be adjusted to use

just the amount of steam that is available.

Such equipment usually consists of a combined electric and steam directional heater, compact in size and simple in construction. The heat is usually supplied from existing steam lines.

An especially powerful fan driven by a small motor draws a large volume of air through the highly efficient copper coil and gives it the high velocity downward direction and penetration.

It should be compact in order to permit all pipe lines to be carried close to the ceiling.

Beside the large saving in fuel there is usually a large saving found in the equipment itself, as compared with a conventional type heating system of sufficient capacity to serve the purpose.

It is therefore not necessary for garages to continue with the old-fashioned expensive and inadequate methods of heating, there being specially designed equipment made exclusively for the conditions met in the modern garage.

The same principle is of course applicable to any situation involving the use of large openings or doorways exposed to the inrush of cold outside air — bus terminal stations, freight houses, docks and piers, shipping and receiving departments in stores, factories, warehouses, etc. It is practically impossible to stop cold air from entering such large openings, for cold air will always enter when a door stands open — more when the wind is blowing and less when it is not — always, however, enough to chill the entire space, not only immediately surrounding the door but away back at remote points. However, this unhealthy and uncomfortable condition can be overcome economically and practically by warming the air that enters, as indicated above.

The result in every case is a better inside temperature condition, greater comfort and efficiency for the workers, and, in the case of public buildings, added comfort for the customers as well.

# MY TIME IS YOUR TIME

Shall purchasing men join the sales chorus  
in adopting this theme song, or can harmony  
be attained some other, more practical way?

**Y**OU don't need to be a believer in any theory of business cycles to be pretty doggone sure that just about once in every so often the time is ripe for the periodical squawk of the sales fraternity that we auto-crats of the buying office aren't doing right by the Knights of the Sample Case. We keep them too long cooling their heels in the outer office and too briefly lolling in the Inner Sanctum. All of which involves a deplorable waste of their valuable time and sends the cost of distribution skyrocketing beyond all reason. Why — if you take the idle, unproductive, and utterly wasted time of one salesman kept chafing in the reception room for fifteen minutes before he gets his interview; multiply that by six for the number of calls he may make in a day; and multiply that by six for the unfortunates waiting with him, you have a total of 540 minutes — 9 hours — two whole salesman-days — lost forever.

Now far be it from us to view such a deplorable situation with anything less than the greatest concern. But that sort of Farmer's Almanac *if-statistic* has a way of leading to a devastating anti-climax rather than proving its point. Dorothy Parker had the ultimate answer, the final absurdity for such reasoning. You'll find it quoted in "While Rome Burns."

Consequently we hesitate to counter with a heart-rending recital of the time wasted by purchasing men in receiving routine calls, good will calls, missionary calls, just - happened - to - be-passing-the-building calls, and plain fishing expeditions (corresponding to the puzzled surgeon's "exploratory incision"). For at the end of this performance we would have accomplished no more than two football teams that wrestle for sixty minutes over the frosty turf and emerge with a 6-6 tie. Each of us would have scored a telling point, but would have

failed to put over that little extra and decisive margin that might be regarded as proving something.

There used to be another argument advanced on behalf of the salesman, in which the value of his time, calculated in fancy figures and universally in terms of five-digit salaries, was witheringly laid alongside that of the humble and underpaid purchasing agent. The resultant discrepancy was hailed as the crowning and irrefutable demonstration of injustice, lack of balance, and commercial waste. But that argument evaporated with the advent of commission selling, though the situation became, if anything, more acute for the languishing salesman.

A recent widely-quoted editorial in *Printers Ink* deplored the plight of the salesman who drifted into town unannounced on the day of a P. A. outing, and was unable to find a single buyer ready to do business at his desk. Subsequently driving past the Country Club as he shook the dust of the inhospitable city from his fenders, he saw a group of his prime prospects gleefully enjoying a fraternal foursome. The story does not relate whether this particular emissary of trade was resourceful enough to pull up at the road-

side, extract a golf bag from the rumble seat, join the party and conserve his energy by interviewing the four all at once. Perhaps his message for each was too confidential to be disclosed to more than one at a time. Perhaps these buyers were too ethical to engage in customer-golf. The curious implication, contrary to all the standard literature on the subject, is that the salesman was the one whose interests were prejudiced by the

lack of an audience; we have always been given to understand that it is the buyer who misses the golden opportunity when he fails to let the salesman regale him with his story.

Seriously, however, here is a real problem. Time is the raw material of executive effort. There is never enough of it to go around; the problem is to make the

**The real problem of sales interviews is not the number of minutes consumed but the manner in which that time is used. And the answer to that problem depends largely on the time spent in preparation outside of calling hours**



best possible use of what there is. From the sales angle, the objective may seem to be a maximum of time spent in actual personal interview. But that is not a reasonable objective for the purchasing executive to entertain. The purchasing man is frank to state, as Don Clark stated before the class in Industrial Procurement at the Harvard Graduate School of Business Administration, that even 50 percent of his time spent with salesmen in this way is out of proportion to the importance of such interviews as a part of his work, and the detailed analysis of the buyer's job and of his time shows this to be a liberal estimate.

A number of answers have been proposed as offering a solution of the problem. They are admittedly only partial answers, however, and must be administered with an uncommon degree of common sense in order to achieve their purpose without sacrificing other important aspects of the buyer-seller relationship. They imply a mutual understanding of the situation, a reciprocation of confidence, a manly recognition of the fact that frankness is not discourtesy, and an appreciation that time saved for one party is likewise saved for the other. Since, of the two, the salesman is almost always the one more anxious to devote more time to the interview, it follows that the educational effort in the other direction must come largely from the buying group.

The usual approach to this problem is along one of three lines: (1) to budget time by allotting only

certain hours of each day to interviews; (2) to curtail the number of interviews; (3) to shorten the time per interview.

The first of these has perhaps been responsible for more adverse criticism and charges of autocracy among buyers than any other single point of procedure. A definite, inflexible schedule of hours for receiving salesmen works a real hardship on the out-of-town salesman, and tends arbitrarily to shorten the salesman's working day. The worst criticism of the plan, however, is that it does not strike at the root of the problem, since it accomplishes little or nothing toward the elimination of waiting time and may even aggravate this situation by concentrating the number of callers at the specified hours.

Similarly a general rule limiting the length of the individual interview fails to take into consideration either the intrinsic or the relative importance of a call. Granting that all interviews should be as brief as is consistent with complete coverage of the subject matter, the really important interviews at a crucial point in the transaction should not be subject to any formal limitation, nor even to the feeling on either side that the discussion ought to be abridged solely on account of the time element. On the other hand, no one should be given to understand, even by implication, that he is "entitled" to a certain slice of the purchasing agent's day unless the purpose of his call merits such attention.



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But it must be noted that all of these lines of reasoning or approach are concerned primarily with the quantitative conception of time—the qualitative aspect of the interview is considered only to the extent of weeding out the unnecessary and shortening the trivial. It is the purpose of this article to suggest a further answer, predicated on the unorthodox premise that the value of the interview from a sales standpoint is not to be measured solely by the number of minutes chiseled from the buyer's day, but rather by the amount of real factual sales appeal that may be packed into those minutes.

Our cue comes from the verified assertion that the purchasing job consists of more than talking to sales representatives; that at least half of the buyer's time must be devoted to other phases of the work in order that he may be in a position to talk to the salesman intelligently and to buy.

Now if it is necessary to place certain limitations on the salesman's actual interviewing time for these reasons, and according to one or more of the policies referred to above, it does not necessarily follow that the effective handling of the larger, complete selling function is curtailed in the same degree unless we start off with the assumption that the salesman has nothing to do except talk to purchasing agents. And it is inconceivable that this is the whole selling job, that the seller must boondoggle away what time he is not actually pleading his case alongside the buyer's desk.

This might possibly be the case in regard to door-to-door selling, but cultivating the great industrial market, dealing with trained buyers whose chief function is to buy wisely, is a vastly different proposition.

It is altogether probable that industrial selling would be measurably improved (in fact, this tendency has been already apparent among progressive companies for the past decade) if there were greater emphasis on preparation for the interview and less on the importance of the interview itself. By way of suggestion, we need only review the list of purchasing activities to indicate some of the corresponding possibilities on the sales side.

1. Correspondence. A potent medium, when correlated with and supported by the personal effort. It is independent of any schedule of hours for interviews; it claims, and secures, the buyer's attention outside of those hours without any effect of haste or time limitation.

2. Research, comparison, study. Is the salesman's information merely a rehash of catalog data, or is he equipped to demonstrate the unique qualities and advantages of his product, intelligently compared with other materials or devices on the market to serve a similar purpose? If the price is higher or lower than that of his competitors, does he know why; can he cite the compensating features of quality and service?

3. Familiarity with processes, facilities and capacity, of supplier and buyer. Has he a real conception of the application of his product in the buyer's company? (Most purchasing agents will co-operate by introducing him to technical and production officials to clarify details of use.) Is he in a position to offer practical and technical advice or counsel on such applications? Does he know approximate requirements so that he may suggest the most economical manufacturing or shipping quantities? Does he know his own company's capacity and manufacturing schedule intimately enough to make valid promises of shipment or to work out a mutually advantageous schedule of stand-by stocks or slack-time manufacture?

4. Market position. Is he armed only with the current price list, or is he well grounded in the market history of his product, with an intelligent opinion of probable developments, which he is frank enough to discuss with the buyer?

These suggestions, of course, are not applicable to, or intended for, the order-taker. But he is gradually being weeded out of the picture anyhow. It takes time to acquire such a background. It takes time to keep it up to date. But it is time well spent, for it will multiply many-fold the effectiveness of those precious minutes of the interview. Furthermore, it is the best possible means of entree and the question of time will rarely be raised. Purchasing agents like to talk with a man who knows, and they like to buy from the company and the man in whom they can have such a measure of confidence.

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# THE MARKET PLACE

## COMMODITY MARKET TRENDS

The general index of commodity prices registered a moderate net advance during 1935, and at the close of the year about 70% of depression losses had been regained, apparently on a sound and lasting basis. The tempo of price recovery has somewhat slackened, as compared with the two preceding years, as was to be

expected, but the character of recovery was far more healthful in that it demonstrated the ability of the commodity markets to hold their position and forge ahead after various means of artificial stimulation and support that had prompted the earlier advances had been withdrawn. This is particularly true of the strictly industrial commodities, as appears when the agricultural group is separated from the general index.

The current price level corresponds approximately with that of the third quarter of 1930. Tracing the broad outlines of the movement since that time, we find a sweeping decline (continuing and accelerating a downward trend apparent since 1926) that carried prices down about 35% over a period of two and a half years, reaching their lowest point in the first quarter of 1933. Immediately responding to the stimulus of the governmental recovery program, controlled and arbitrary though this may have been, the price line rose sharply during the second quarter of 1933, regaining some three-fifths of the loss and reaching a point corresponding to the price levels prevailing in the spring of 1931. For the next twelve months, up to mid-summer of 1934, prices continued to climb rather rapidly until some 30% of the 35% drop had been regained. A further advance in September was not maintained, and the net gain for the balance of the year was negligible.

1935 opened with another substantial advance to the September level, this time on a more secure foundation, and from this point on the price curve has worked slowly upward, with every evidence of firmness, to the present level.

The pattern of the price curve during 1935 shows three departures from the general trend. There was a sharp dip in March, reflecting a break in cotton, and again in June when

agricultural prices once more sagged. Neither of these breaks was sufficient to carry the index down to prevailing levels of 1934, however, and both were quickly recovered. This period also witnessed the abandonment of NRA, furnishing the greatest test of independent price strength—a test which was successfully passed. In October, the index rose to a 5-year high, but this advance was apparently premature and subsided so that the record of the year shows a relatively slow but fundamentally solid improvement, amounting to about 2%.

The fact that the rise in agricultural prices has apparently been decisively checked during the year bespeaks a particularly strong position for industrial materials, and this is borne out by analysis of the various groups. The 29% general advance of 1933 was predominantly due to an 88% advance in grain prices. The 9% general advance of 1934 was influenced largely by a 46% advance in grains. But the 2.2% general advance of 1935 was attained despite a 10.8% decline in grain prices. Among the industrial commodities, building materials constituted the only major group to register a price loss (0.8%) in 1935, the others meanwhile advancing moderately.

The advance in business activity since the low point of 1933 has for the most part lagged behind the price curve, and shows much wider fluctuations. Experiencing a similar rapid advance in the second quarter of 1933, this was followed by a sharp recession in the latter half of the year. The first half of 1934 showed substantial improvement, followed by another six months at a lower level. 1935 saw the higher rate regained and held until August, when a phase of steady improvement developed, leading to a 5-year high in October and a slightly better rate at the turn of the year, at which time approximately 50% of the depression loss had been regained.

Consumption of commodities has been in notably greater volume than in 1934, and in a few groups the record is comparable to that of 1929. There has been a general liberalization of production quotas among the strongly controlled materials. Present tendencies appear to favor support of higher volume and activity, with stabilization rather than further advance in regard to prices. General trend still upward, but at a conservative pace.

### SUPPLY

### DEMAND

### MARKET

## COAL

**D**ECEMBER production of bituminous coal shows a decline in tonnage due to the holiday week, but daily rates have been maintained at about the November level. Consumers' stocks are slightly down.

**D**EMAND has been broad and active, and shipping directions are generally urgent. Stocks accumulated during wage negotiations are no longer a serious factor.



**P**RICE determinations in the east, under the Guffey Act, have again been postponed, and opposition to the proposed schedules has been materially strengthened by the adverse ruling on AAA.

## COPPER

**D**OMESTIC stocks of copper above ground, slightly more than 200,000 tons at the turn of the year, are the lowest in five years, and production is again expanding.

**D**ECEMBER sales were more than 40,000 tons, an increase of 25% over November. Interest in advance bookings, as far as April, has noticeably improved.

**W**EAKNESS of foreign copper prices effectually stopped any immediate prospect of a price advance beyond 9¼ cents, which represents a gain of ¼ cent for the year.

## COTTON

**T**HE Supreme Court decision on AAA forecasts an end to production control, though it will scarcely affect the present crop year. Mill inventories of finished and semi-finished goods are lower than for several years past due to active trade in the last quarter, and operations are scheduled to continue at a brisk rate, at least throughout January, following the inventory lull.

**W**ORLD consumption of American cotton during the first third of the current season—August to November inclusive—was close to 4 million bales, an exceptionally high record. Exports are heavier, and the mills generally have a good backlog of unfilled orders.



**R**AW cotton declined about 30 points in December; cotton goods showed firmness on good demand. Futures broke sharply after the AAA decision and trading was temporarily suspended on gray goods, most prices on finished goods being withdrawn. Two days later, cotton cloth was quoted at 2 cents below the previous level, approximately splitting the amount of the processing tax.

## IRON & STEEL

**S**TEEL operations were down to 46.7% at the close of the year, nearly ten points below the November high, but started to climb again immediately after the holidays and continued substantially above the level for the corresponding period of 1935. Steel ingot production was the highest since 1930, running 30% ahead of a year ago.

**D**EMAND was well diversified, as for several months past, but with larger inquiries coming in to bolster the volume. Light steel was generally in better demand than the heavy items, sheet and strip being the most active group. Cast iron pipe business was good in December and railroad buying expanded.

**P**PRICE schedules are somewhat out of balance due to a December advance of \$2 per ton in semi-finished steel without a corresponding change in basic and finished markets. A rise of \$3 on the base price of cold finished bars is offset by dropping the chemical extras on this item.

## PETROLEUM

**T**HE flow of crude oil was considerably curtailed in all fields in the latter half of December, California operators having apparently arrived at a truce. The allowable Texas production for January was cut more than 5%, new quotas being 2000 barrels under the indicated demand as computed by the Bureau of Mines. Gasoline stocks are sharply higher.

**D**EMAND has been irregular and spasmodic. Gasoline requirements were seasonally low. Fuel oil, after enjoying good demand around the turn of the year, fell off in the early part of January. Lubricants were fairly active, industrial items being particularly strong.

**R**ETAIL gasoline prices were slashed 3 cents a gallon in the New York metropolitan area in the closing weeks of 1935, the tank car level however maintaining the ¼ cent mid-December advance. Crude prices are stronger, especially in the Texas district, and the price advance is spreading into other fields.

## RUBBER

**S**TOCKS of rubber were considerably reduced in November and December, both as a result of greater consumption and lower exports from producing countries. The increased allowable tonnage from the Dutch East Indies has not yet made itself felt as a factor of greater supply.

**F**ACTORY buying has been generally in better volume. Production of mechanical rubber goods was up 20% in 1935 and the outlook is for a further advance. Original tire equipment is in good volume, replacements still low, but facing an accumulating requirement that should be felt in the next few months.

**P**RICES of rubber products have been practically stabilized in the major divisions of the industry. Quotations on crude have shown considerable strength, advancing better than ½-cent over the past month, and are currently firm at the highest level of the present price movement.

## TIN

**W**ORLD supply was practically unchanged during 1935, standing only 84 tons ahead of a year ago after a reduction of 1267 tons in December. The effect of increased allowable exports is not yet apparent in the statistics, but the market awaits a condition of more free supply in the near future. Reports from the far east indicate a substantially larger intake of ore in recent weeks.

**L**ITTLE consumer interest has been apparent. Inquiries and purchases have been light, particularly for delivery beyond the current month. Tin plate operations are at a low rate, with no pick-up anticipated until after the Chicago meeting of the Cannery Association on January 20th.

**T**IN prices dropped more than 4 cents during the month, the unsettled market of early December developing into a sharp and steady decline to 46.90 cents in the first week of January, reflecting lack of demand, prospect of larger supplies, and particularly the weakness of all metals in the London Market. There was a slight rally from the low point on January 7th.



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# BUSINESS BOOK OF THE MONTH

**KEEP YOUR WITS.** By David Seabury, Consulting Psychologist. Published by Whittlesey House (McGraw Hill Book Company, Inc.) New York. 229 pages. Price \$2.00.

**The practical science of psychology offers some pointers on how to free judgment from outside distractions.**

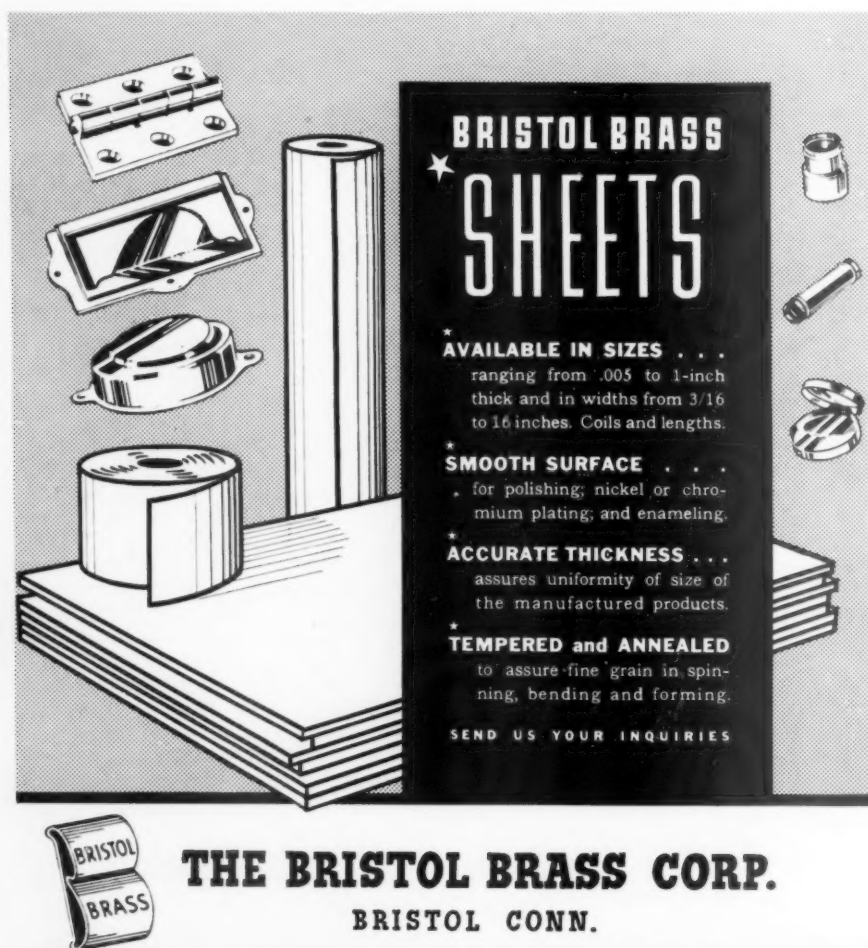
**A** DEFINITION current in the science of business administration sets up the classification of executives (as opposed to clerical or manual operatives, supervisors, technicians, and various types of company representatives) by noting the distinguishing characteristic that executives are charged with the responsibility and the au-

thority for making decisions. It follows necessarily from this definition that executive skill and success are dependent upon the consistent ability to make the right decisions, taking into full account the circumstances surrounding each individual problem and looking into the future to foresee, so far as possible, the probable results and

implications of a course of action.

Purchasing executives have been told repeatedly that they have two ways of achieving this highly desirable ability: (1) to fortify themselves with an exhaustive knowledge of the materials they buy, the markets in which they trade, and the industry and processes which they serve, and (2) to divorce themselves utterly from any personal or emotional considerations, striving always to develop objective standards and attitudes toward their work. At the same time, the most violent criticism and condemnation, the most bitter denunciation and disparagement of purchasing agents as a group, has resulted directly from their conscientious efforts to live up to the second point of this creed.

It is admittedly a difficult and delicate assignment. We are ever more conscious of the human element in business as in other aspects of life, and we are forced to recognize that it is frequently the one determining factor in our dealings, superimposed upon the relatively stable factors of economic behavior and market statistics. It is difficult, too, from the angle that it asks the buyer to deny his own fundamental human nature. For, Elbert Hubbard to the contrary notwithstanding, the purchasing agent is not altogether devoid of passions, emotions, and personality. He has his likes and his dislikes, is subject to indigestion, the irritations of routine and surroundings, the dictates of habit, the worries of personal affairs, all of which tend to affect his decisions at a given moment. And if he were successful in submerging all these subjec-



**BRISTOL BRASS  
SHEETS**

**\* AVAILABLE IN SIZES . . .**  
ranging from .005 to 1-inch thick and in widths from 3/16 to 16 inches. Coils and lengths.

**\* SMOOTH SURFACE . . .**  
for polishing; nickel or chromium plating; and enameling.

**\* ACCURATE THICKNESS . . .**  
assures uniformity of size of the manufactured products.

**\* TEMPERED and ANNEALED**  
to assure fine grain in spinning, bending and forming.

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**THE BRISTOL BRASS CORP.**  
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tive elements, he must face the fact that he is the constant target of one of the most highly developed and shrewdly planned systems of emotionalistic psychology ever devised—the art of salesmanship. A recent analysis of 535 magazine advertisements showed more than 70% using an emotional motive for sales appeal, less than 30% treating the subject on the basis of a rational motive. Granting that the proportion would probably be less one-sided in respect to strictly industrial sales approach, nevertheless there is a situation here that can not be met successfully by any other means than facing it frankly and squarely. Psychology is every bit as potent in buying as in selling, both as it pertains to the individual, personal mental processes of the buyer and as it suggests certain factors of technique.

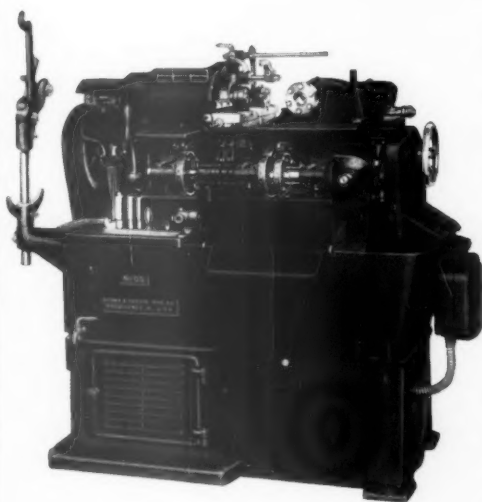
It is to the first of these angles that Mr. Seabury's book is directly pertinent. The definite application of psychological principles in adapting individual natures to the conditions of life is a comparatively recent development, attaining general recognition largely through the dramatic success of such analysis and prescription as applied to minds deeply affected by World War experiences. Less spectacular, but equally important, has been its application in the fields of education and child guidance, and in countless individual cases where health, happiness and effective use of personal talents have been hampered by some obscure quirk of character, nervous stress, experience or reasoning. And with the growing complexity of our business and social environment, the consulting psychologist has an increasingly important field for his expert counsel.

Among the numerous efforts to explain and popularize this science, Mr. Seabury's recent book is one of the best and most practical. It is free from technical terminology; its examples are patently drawn from life, citing types and conditions familiar to every one. It does

# for 1936 ... and Beyond

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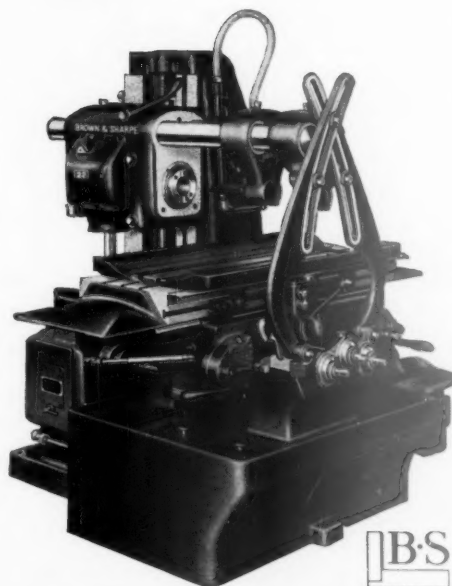


**CONSIDER--**  
*not only the improved production and accuracy possible by installing this modern equipment-- BUT-- the long dependable service that insures profitable returns on the investment.*

● A Broad Range of Types and Sizes of Machine Tools—Milling, Grinding, Gear Cutting and Screw Machines.

● No. 140 Catalog lists the full line. Have you a copy?

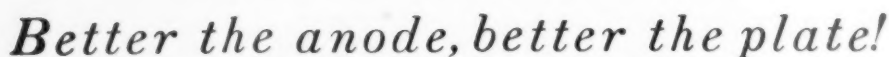
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Mfg. Co.**  
Providence, R. I.



**B.S.**

# BROWN & SHARPE





The mix is then tested in the laboratory for crystallization, and no anode is passed unless it has a uniformly even, homogeneous grain structure. In this structure lies the assurance of good plating. Anode catalog on request.

# SEYMOUR

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## "Controlled Grain" NICKEL ANODES

Mr. Seabury would probably con-  
cur in that estimate, and he goes  
further in that he sets down some-  
thing of the technique of attaining  
that state of mind that makes for  
greater success and power in pur-  
chasing or in any of the other mani-  
fold tasks of business management.  
In a world of average men, out-  
standing achievement is not so

Mr. Seabury has some excellent suggestions to offer on the development of these powers and habits—how to get down to the kernel of the problem and clarify the basic questions, how to isolate the constant elements of your work and view the variables in their proper relation, how to recognize the routine or standard situation and the opportune time for making an exception to the rule, how to be rid of caprice, distortion and self-deception. Of such very practical considerations he builds up the science of keeping your wits, and using them. Human judgment may still be fallible, but the percentage of error can be materially reduced, with a coincident growth of confidence as action is based upon reasoned processes and with increasing freedom from conscious effort as these habits of reasoning are more deeply implanted with use.

## THE EXECUTIVE PURCHASER

## TRADE LITERATURE

Catalog No. 60 of the Independent Pneumatic Tool Company, 600 W. Jackson Blvd., Chicago, presents illustrations and specifications for a complete line of high frequency electric tools, including drills and drill stands, screw drivers, nut setters, tappers and stud setters, grinders, sanders, rubbers, polishers and balancers. A special section is devoted to pneumatic and contractors' tools.

★

The Lukens Steel Company, Coatesville, Penna., has issued a new 24-page booklet on nickel-clad corrosion resisting steel. The booklet is largely devoted to a tabular analysis of applications of this metal, classified by industries and processes, and type of materials handled. The majority of these applications have actually been made and the suitability of the metal is proved in service. About sixty photographic illustrations of typical products and installations are shown.

★

Steel & Tubes, Inc., 224 East 131st Street, Cleveland, Ohio, is distributing a new 32-page booklet on electric resistance welded tubing, channels and bends, made of selected rail steel, showing cross-sections of standard and special bends and presenting laboratory test data indicating superior strength and rigidity obtained through this fabricating process.

★

Catalog No. 35 of the American District Steam Company, North Tonawanda, N. Y., offers 130 pages (loose-leaf style) of engineering, dimensional and price information on a diversified line of steam distribution equipment including expansion joints, meters, traps, pipe casing, water heaters, vapor heating specialties, and pipe fittings.

★

A non-technical description of paper making, from log to finished sheet—virtually a trip through the complete plant—is given in "The Story of Caslon Bond," sent free upon request to the Munising Paper Company, 1918-A Field Building, Chicago. A number of details of interest and value in the specification and purchase of paper are covered—the process of cooking pulp and of forming on the machine, how the printing and writing surface is prepared, the cause and significance of snap and crackle, etc.

★

Pasteur Laboratories, 516 Fifth Ave., New York, have issued a folder describing Pastoxine, a concentrated preparation for exterminating rats and mice, which can be used with safety since it is not poisonous to man or domestic animals.

Single, double and triple reduction herringbone-gear speed reducers, for large speed ratios, heavy and shock loads, are shown in Catalog No. 1519 of the Link-Belt Co., 2045 West Hunting Park Ave., Philadelphia. All items are rated in accordance with the recently recommended practice of the American Gear Manufacturers Association, and the service factors, dimensions and weights are listed. The catalog features a double-reduction unit in which the first reduction is accomplished by herringbone-gears and the second reduction by means of a steel roller chain drive. Numerous sketches show the application to actual driving problems.

★

The Jeffrey Manufacturing Company, Columbus, Ohio, announces Catalog 417, 400 pages, covering materials handling equipment and parts, including chains, sprockets, transmission machinery, spiral conveyor, elevator and conveyor parts. Illustrated, and presenting specifications and list prices. Catalog 610, 64 pages, is devoted to materials handling, electric vibrating equipment of the Jeffrey-Traylor type, with no mechanical wearing parts. It lists specifications for the various types and shows typical installations for feeding, screening, conveying, packing, cooling, drying, and other handling operations.

★

Morris Machine Works, Baldwinsville, N. Y., has issued Bulletin 157, a 16-page descriptive list of centrifugal pumps, dredges and steam engines, single and multi-stage, vertical and horizontal, for the handling of clear water, fine and coarse abrasive mixtures, pulpy materials, and chemical liquids.

★

A new booklet on pipe joints, useful to those interested in the construction, operation or maintenance of water lines, has been published by the S. R. Dresser Manufacturing Company, Bradford, Pa. It includes a number of installation pictures and description of various pipe line products.

★

The new 64-page catalog of the Ideal Commutator Dresser Company, Sycamore, Illinois, lists several new products including resurfacers, bracket supports, and solderless wire connectors and lugs. It includes an informative section on general electrical maintenance and the care and servicing of commutators and slip rings, and tabular data on current carrying capacity of solid and stranded wires; fusing, wiring, and full load data for various types of motors; formulae and tables for the calculation and determination of electrical properties.

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WHY NOT USE CASLON  
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*... the paper saving  
runs as much as 74%!*

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Many a large organization during 1935 utilized Caslon Bond to reduce paper costs in some cases as much as 74%, with complete satisfaction.

Manufactured under conditions especially favorable to low cost production, this remarkable paper has a crisp, clean, sturdy character utterly amazing at its price.

You can realize similar savings merely by specifying to your printer that Caslon Bond be used for all letterheads, envelopes, invoices and all other forms. Your printer will gladly submit samples, in twelve colors and white, before you order.

CASLON  
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*Watermarked for your protection against substitution*

★ ★ ★ ★

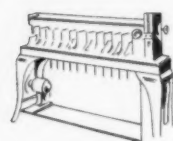
SEND FOR FREE *Proof Book*

Contains samples of all colors of Caslon Bond and information important to every paper user, regarding the manufacture of bond paper. Send this coupon to The Munising Paper Company, 1959 Field Building, Chicago, Illinois.

Name \_\_\_\_\_

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★ ★ ★ ★



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*and for your  
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*With Columbia merchandise  
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MANUFACTURING CO., Inc.**

*Main Office and Factory*

**Glen Cove L. I., New York**

**BRANCHES**

*New York, Chicago, Philadelphia, Pittsburgh,  
Cincinnati, Nashville, New Orleans, Kansas  
City, Milwaukee, Minneapolis, Toronto, Can.*

## FANTASTIC FUTURE

*Continued from page 11*

eating the fly and mosquito, are in the immediate future.

The cathode ray tubes for which no use has been found in industry present great possibilities. The cathode ray tube produces as many electrons per second as a ton of radium, worth about a hundred thousand dollars. The bombardment by these electrons causes minerals to glow with brilliant colors. Crystals of rock salt become brown; acetylene gas is changed to powder, castor oil becomes a solid; bacteria are instantly killed. Exposed for a tenth of a second to these rays, the skin of a rabbit developed first a scab and then a new type of long snow-white hair. Of the cathode ray tube's future we know nothing definite. If Dr. Coolidge, the inventor of the tube, can speed up these electrons to a velocity nearing that of light in a new super-tube he plans or is building, this can be substituted for the cancer treatment.

Radium has been changing methane, the chief constituent of natural gas, into a petroleum-like liquid suitable for motor fuel. Perhaps the cathode ray with its similarity to radium in electronic activity can provide new substitutes for gasoline.

### HOUSING OF THE FUTURE

Building is showing a trend to prepared and ready-built homes made of steel, wood, etc., with complete units of refrigerator, stove, air-conditioning, heating and lighting. Pipes for plumbing go with the outfit. Combines are opposing the unprogressive building trades and will defeat them at their own game unless union heads see the light and are willing to change with the times.

Perhaps these homes are part of the city of the future with its uninterrupted arterial highways for air-conditioned motor cars, long ramps for pedestrian traffic, robot police with electric pistols that

shock one into unconsciousness rather than kill, flat-topped buildings with dirigible mooring masts, elevators and autogyro landing fields, as well as sun-rooms and observation posts. Moving sidewalks, noise eliminators, glass that removes heat from sunlight and permits a cool building, and perhaps even dictation to robot stenographers of metal who transform our dictated words to paper, are some of the innovations in the city of the future.

Naturally our buying habits will suffer change or disaster. Each month new things are being introduced to the trade, so much that it is difficult for the average buyer to separate the wheat from the chaff. To keep his costs low, his products truly modern (as well as stream-lined) the purchasing agent cannot afford to ignore anything new. He who ignores will find himself behind the times in production and selling costs, as well as in his finished product.

A purchasing agent today must become more than a purchasing agent. Should he seek promotion, extra learning is wise, and the extra hours of study devoted to furtherance not only of his job but of other plant details, most necessary. Like the modern chemist, the purchasing agent must furnish his own synthetics to indicate his adaptabilities to other parts of the business. To fully grasp the widespread possibilities of the future, each buyer must possess some knowledge or even a smattering of knowledge of chemistry, mechanics, electricity, marketing or advertising, to see the full possibilities of improving his own product. The future may be fantastic—queer and unique beyond present dreams—and living may be easier, but competition will be more difficult because of the new and varied products and the constant change and improvement to make life more liveable and costs more economical. The buyer must keep up with and ahead of progress, for "When we rest, we rust."



## The Beauty of ACME STAINLESS Laughs at the Beast of Corrosion

● Manufacturers using Acme Stainless have a powerful addition to their selling force—beauty that lasts. This finest of stainless strip steel withstands severe tests for durability. Its lustrous finish will not rust, tarnish or stain. No special coating is required.

Acme Stainless is one of many kinds of Acme Superstrip. Therein lies a reason for its success in the automotive, electrical and other fields. It is Superstrip.

When you buy Acme Stainless—as any Acme Superstrip—you get strip steel that fits your own product and production needs. It is made to order every time. Even the way it is packed for shipment, fits your production line. If you need a strip with beauty of finish that stands up, you need Acme Stainless.

Send today for a free sample of Acme Stainless, and technical bulletin. ACME STEEL COMPANY, General Offices: 2843 Archer Avenue, Chicago. Branches and Sales Offices in Principal Cities.

# Acme Superstrip

HOT ROLLED • COLD ROLLED



GALVANIZED • STAINLESS



**"IT WILL  
NEVER LOSE  
ITS  
LUSTER"**



● This cocktail set, made from Acme Stainless steel, is just an example of the ability of this fine steel to form beautiful products, that withstand the attacks of rust, tarnish or stain.

## LEGITIMATE PATENTS

*To the Editor:*

Many of your readers must sometime have had the experience of learning that there had recently been granted a patent on subject matter they knew to be old. Their reaction in such circumstances was doubtless one of indignation that another should have been unjustly empowered to harass them and of astonishment that the Patent Office should have committed so palpable a blunder.

By and large, the Patent Office Examiners are competent, and do their utmost to prevent the issuance of improper patents; but they have to rely primarily on the printed matter which is ready to hand, and that, apart from books and periodicals utilizable mainly in the chemical arts, consists almost exclusively of earlier patents. In other words, industrial practice as embodied in trade catalogs and the like, except the relatively small proportion of it covered by patents, is not adequately represented at the point where patentability is first officially determined.

This situation obviously calls for implementing the Examiners further; and the way to proceed has been indicated by the authorities.

As stated in the February 1934 *Journal of the Patent Office Society*:

Manufacturers and all other interested persons should therefore assist the Patent Office by sending all the technical publications, reprints, bulletins, trade catalogs, circulars, etc., which they issue, and thus keep the Office informed in regard to their new developments. They should also cooperate by sending in any specially prepared bibliographies, digests and summaries of the literature on particular subjects which are not ordinarily available.

And a letter received from the Patent Office in October 1935 declares:

The Patent Office is very glad to receive any trade catalogs at any time, or any printed publications that would be references in the consideration of applications for patents. If those interested in the manufacture of certain articles will send their catalogs to the Patent Office, they will be placed in the proper classes for search purposes.

Industrialists who submit to "Commissioner of Patents, Washington, D. C." copies (preferably two) of all publications—past and current ones now, and future ones as soon as available—describing their processes and products, will thus, by helping to keep down the number of patents of questionable validity, serve not only their own interests but also the public good.

FRANK WILEN.

Legal Department  
E. R. Squibb & Sons  
Brooklyn, N. Y.

AMERICA'S FINEST OCEAN FRONT HOTEL



# Socially Comfortable

"... Socially comfortable, if you know what I mean... a lot of our own crowd... and the bunch we barged around with on the Riviera. They're all here at the Roney Plaza, for if you really go in for Miami Beach resort life in the finer sense, you spend most of your time here anyway.

"The Beach and Cabaña Club are gorgeous. Our suite overlooks the ocean, the service is smartly continental and I guessed the *chef's* name after our first dinner.

"Promised to golf at two with John, then to dance in the Palm Gardens at five, so more of this later. Hurry down... you're missing the best winter ever."

Roney Plaza

MIAMI BEACH

FOR PARTICULAR INFORMATION AND RESERVATIONS ADDRESS  
EDWARD B. JOUFFRET, MANAGING DIRECTOR, RONEY PLAZA, MIAMI BEACH, FLORIDA  
or New York office, 521 Fifth Avenue, Suite 2421; Chicago office, 180 North Michigan Avenue, Suite 1015

# A CONTRACT FOR CASTINGS

THIS is a contract plan worked out between the purchasing agent of a large eastern equipment manufacturer and the foundry which supplies his castings. It is a "requirements" agreement, with an adjustable price basis. The object of the price calculation is not primarily to arrive at the lowest possible price, but a fair price—free from chiseling on the one hand and profiteering on the other. It assures the supplier that he will not be asked to operate at a loss. It places the buyer in approximately the position he would enjoy with respect to any competently operated production department of his own company. Probably it is because these ends have been attained in a practical manner that this large company has not seen fit to undertake the foundry operation on its own responsibility, and that the foundryman has been willing to continue the arrangement, covering a substantial part of his business, over a period of eighteen years.

The price formula recognizes certain variable factors entering into the cost of castings, over which the operator has little control:

- The price of pig iron
- The price of coke
- Prevailing wage scales

It further recognizes other variables which reflect to a certain extent the efficiency of management and operation, but which fluctuate with variations in volume of business and other business conditions. Principally these are:

- Foundry overhead
- General overhead
- Average size of castings

Finally it recognizes the justice and necessity of a fair operating margin.

Every three months, the purchasing agent and the foundry manager sit down together and check over

these various factors, noting any changes which have occurred since the last conference, and arrive at a mutual agreement setting the cost of castings over the next quarterly period. On this basis of agreement, both buyer and seller can proceed with complete confidence in the stability of the situation for the time being. Gauged by comparisons with the prevailing prices at any given time, the monetary advantage is sometimes with the buyer and sometimes with the seller. But both parties to this arrangement prefer to consider it in terms of the longer range.

The unusual feature of the agreement lies in its treatment of overhead. Obviously, in spite of the most expert and conscientious management, overhead will be proportionately higher in periods of curtailed volume and will be reflected in higher costs. This is generally recognized as one of the normal hazards of any commercial enterprise. But whereas most operators are forced to assume this factor as a temporary loss, and are frequently willing even to shade the item below a normal average figure in their price calculations as a spur to greater volume, in the hope of recouping these concessions as overhead is eventually spread over a larger amount of total business, here is a case where the buyer voluntarily takes over this burden. Over the past couple of years, for example, it has meant paying considerably more for castings than the prices quoted by other foundrymen eager to increase their business on a competitive basis. Is this consistent with good purchasing policy?

In theory, of course, it will be seen that the process of averaging or absorption should work out to the same result whether it happens to be financed by the buyer or by

the seller. If the company were operating its own foundry, and were to judge values by balancing its actual costs against the prevailing outside market, this might become a necessary method of accounting.

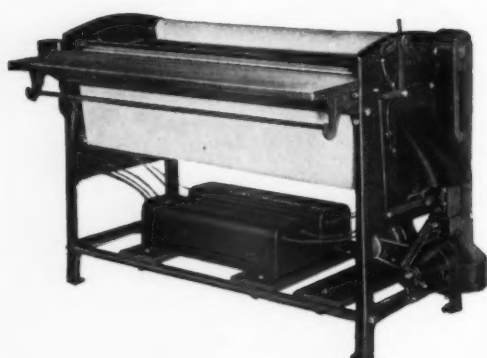
But this is not a complete answer. As a matter of fact, the company does not operate its own foundry. It should not only be free from the hazards of ownership and management, but should be free to take advantage of current market conditions.

However, there is another and a very practical answer. It goes back to the factor of volume, which is the most important single item entering into the determination of overhead. For it follows that the period of relatively highest prices is the period of limited purchases, while the greatest bulk or volume of business is placed at the most favorable price level. Where such a condition consistently prevails, it requires only the most elementary mathematical calculation to see that the purchase record will show a highly satisfactory result. Moreover, should this company be fortunate enough to be operating at a higher rate than the general level of the industry in a period of widespread depression, the advantage of this greater volume, constituting a substantial proportion of the vendor's business, is promptly reflected in a more thinly distributed overhead and the burden is lightened in proportion.

Meanwhile the foundryman enjoys the assurance of a backlog of orders on which he cannot lose, a steady and profitable foundation of business, a more than ordinarily valuable account to carry on his books. Furthermore, he is relieved to a considerable extent of the necessity of "absorbing" overhead on his other, competitive business.



# NEW PRODUCTS & IDEAS



No. 154

## BLUEPRINTING MACHINE

CONTINUOUS process blueprinting is facilitated by this new machine, which utilizes narrow canvas belts to carry original prints and sensitized paper around a revolving 12-inch cylinder of pyrex glass through which the paper is exposed to a series of carbon arc lamps. There is no relative motion between cylinder and paper or print, and an asbestos roll curtain in the cylinder permits adjustment of the area of exposure. From this printing machine the work is returned to a tray within easy reach of the operator, or it may be led into a finishing unit for washing, chemical treatment, and drying. Speed range of the machine is from 3 inches to 20 feet per minute. Two models handle prints up to 45½ and 57½ inches maximum width respectively, with current consumption of 35 and 40 amperes at 220 volts a.c.

See coupon below



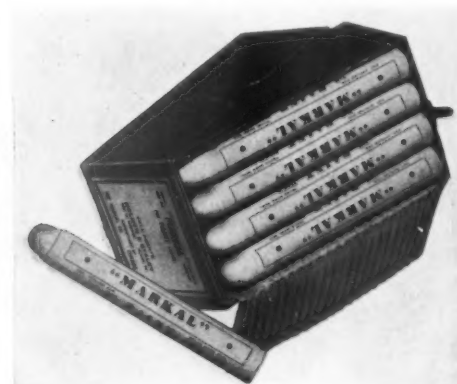
No. 155

## OIL-RESISTING PNEUMATIC HOSE

A NEW type of air hose, especially resistant to the deteriorating effects of hot oil from air compressors, has been developed for mines, quarries, rock industries, road work, and

general industrial use where severe service conditions are encountered. Made of a compound similar to that used in oil-conducting hose, it can actually be saturated with oil for extended periods without affecting its serviceability. The construction is also designed for resistance to heat, high pressure, abrasion, and weather exposure, without excess bulk or useless weight.

See coupon below



## MARKING MATERIAL

No. 156

PERMANENT markings on any hard surface material may be made by use of this new product which is described as actual paint (not chalk or crayon) in stick form. It is weather-proof, hardens only after application, can be carried in the pocket, and eliminates the messiness and waste associated with brush marking. It is made in two types: For cold marking (black, white, red, yellow and blue) on metals, glass, cardboard, lumber, boxes and crates, or building stone; and for hot marking (white and yellow) on steel shapes, forgings, castings, pipes, billets, etc. at temperatures from 300 to 1200° F. The hot-marking type does not run or flow while hot, nor peel after cooling, nor require going over the original markings. Useful in stock and shipping room, for indicating size and lot numbers, and serial numbers to facilitate assembly or construction.

See coupon at left

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Cleveland, Ohio

Please send complete data on the New Products listed by number below:

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Name .....

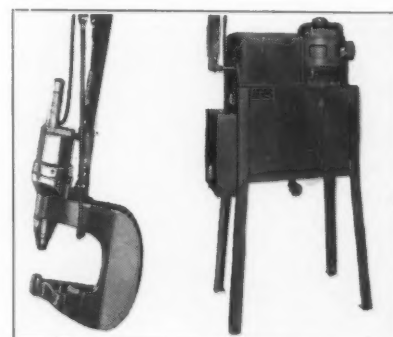
Company .....

Address .....

City ..... State .....

## PORTABLE HYDRAULIC RIVETER

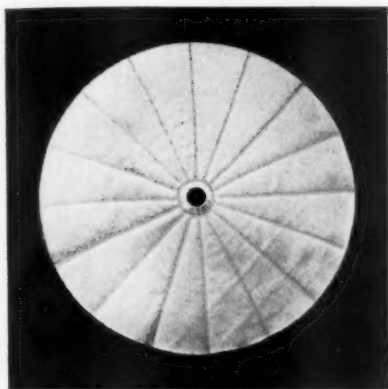
No. 157



THE portable yoke-type press (left) is available in two models, weighing respectively 54 and 45 pounds. The larger model develops a maximum pressure of 35,000 pounds at the

rivet dies and has capacity for cold-heading rivets up to  $\frac{3}{8}$  inch. The complete cycle of operation requires  $2\frac{1}{2}$  seconds, and the design is such as to prevent accidental repeating and to permit instantaneous stopping and return to open position. The pressure generator (right) occupies four square feet of floor space, is driven by a 2 hp. motor, and is automatic in operation, with electrically operated valves and oil pump control.

See coupon page 34



## HUMIDIFIED BUFFS

No. 158

**S**PECIAL pretreatment of the cloth used in this new line of buffing and polishing wheels, before making it up into buff sections, is said to introduce the proper moisture content for keeping the cloth in the most favorable condition, with maximum tensile strength and wear resisting qualities, to the end of securing better performance and longer life. The buffs are sealed in moisture-proof paper for delivery to the customer's plant.

See coupon page 34



## ELECTRIC LIFT TRUCK

No. 159

**A**LL sharp angles are eliminated and working parts covered in this 5-ton lift truck. The platform, supplied in various lengths, is a diamond pattern plate with high-carbon steel lift arms, electrically welded. The uprights, also available in various heights, are of 10-inch cast-alloy steel channels. Hoisting is by means of two double roller chains, each having a capacity of 46,000 pounds. The hoist unit is a quadruple reduction spur-gear unit, with gears and shafts mounted on ball or roller bearings, and with cutout control switches governing platform movement at the upper and lower limits of travel. Virtually all of the operating controls are located within the battery compartment enclosure. Both travel and hoist motors have overload capacity of 300 per cent of rated load for a period of thirty minutes, and the design is such as to permit easy steering under full load.

See coupon page 34

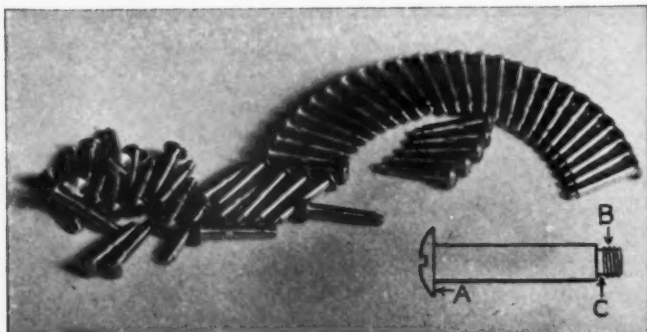
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# Hygrade Lamps

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CORPORATION  
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QUALITY INCANDESCENT LAMPS for more than 30 years



## "Jokers"!

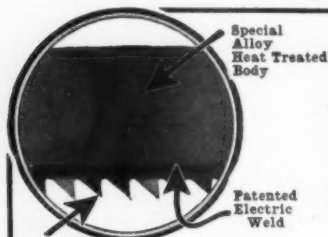
**S**IMPLE as this little screw may look, it is alive with "jokers"! The slotted head had to be exactly square on the inside (A). The other end (B) has a 100-to-the-inch thread exactly .040 in length! Between thread and shank is a neck which had to be square. Tolerances were close. The stock was screw steel and had to have a high finish. Yet the job was turned out smoothly, perfectly and on a production basis. Peck service is like that!

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## PECK SPRINGS AND SCREW MACHINE PARTS

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PARIS, FRANCE

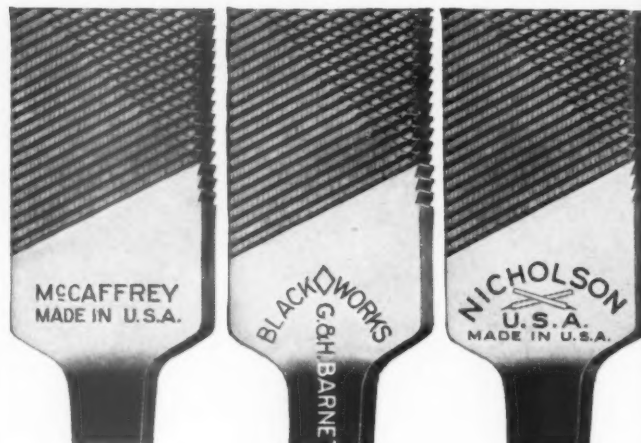
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## FILE TOOTH DESIGN

No. 160

**A** NEW principle of file tooth construction, perfected after an extended period of experimental work and now proved by use under severe and varied industrial conditions, makes possible up to three times as many cutting edges to each square inch of the file's cutting surface, with the additional feature that as teeth wear down in the natural course of filing, reserve cutting edges come up to take their place, giving the files a new lease of life. One of the advantages resulting from this new design is the elimination of side-slip tendencies, away from the line of work. The new files, comparable to a non-skid automobile tire as contrasted with the old smooth type, will positively stay on the line of work. Other advantages claimed are greater ability to remove stock, higher filing speed, and increased durability.

*See coupon page 34*

## MAGNETIC DETECTOR

No. 161

**E**XTREME sensitivity and accuracy characterize a new magnetic detector consisting of a surveying compass with adjustable bar magnet for reducing the control effect of the earth's magnetic field, and two radial fins serving as magnetic antennae. The apparatus has been successful in locating pipe lines at a depth of seven feet, within one diameter of the pipe. Some of these lines were laid more than 40 years ago and were found as far as 100 feet from their supposed locations.

*See coupon page 34*

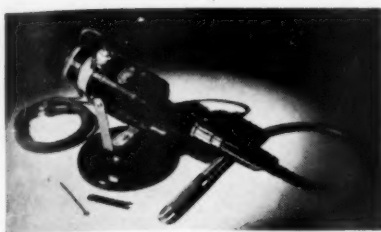
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... you have an outstanding magazine for the purchasing agent. The articles which you have run have proven to be very valuable to me and I am sure are of equal value to other purchasing agents."

*Milwaukee, December 31, 1935*





## FLEXIBLE SHAFT TOOL

No. 162

THE unique feature of this flexible shaft tool is its range of speeds and simplicity of speed control, offering operating rates of 1700 to 12,000 r.p.m. with the proverbial "twist of the wrist," and accomplishing this by means of an electric governor instead of the "power stealing" rheostat. The shaft is powered by a  $\frac{1}{4}$  h.p. continuous duty universal motor, and has a collet type chuck with  $\frac{1}{4}$  inch capacity. The flexible shaft is 43 inches in length. Designed for die-finishing, pattern cutting, etc., and applicable to work on wood, metal, or compo materials.

See coupon page 34

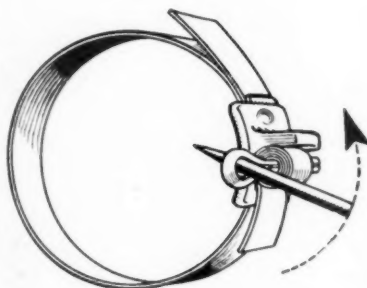


## AUTOMATIC TURN TABLE

No. 163

SPRAY finishing of various types of industrial products is facilitated by this new automatic turn table, upon which the object may be placed and revolved in front of the operator with positive speed control by means of a foot pedal connected with the motor. It can be operated either with air or electric motor. The standard model has a revolving disc 16 inches in diameter set at a height appropriate for the average spray booth job at  $2\frac{1}{2}$  feet. Variations of height and disc size are available on special order.

See coupon page 34



## ADJUSTABLE HOSE BAND

No. 164

THIS unique hose band, due to the flexibility of the material and the positive locking device without screws or nuts, adapts itself to the hose with even pressure on all points of the circumference and provides a continuous contact instead of the open gap found in ordinary bands. The standard size fits all diameters from 1" to  $2\frac{3}{4}$ " and has been tested to 125 pounds pressure. It is easy to apply in tight places and requires a

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You simply PUSH the knife through the belt. Makes a clean, square cut of any belt (except metal stitched) up to 8 in. wide. Combined guard and hold-down clamp holds belt immovable. Knife will make several thousand cuts and is readily replaceable. Used as illustrated or horizontally. Weight 4 lbs. and 3 ozs. net. Order through your distributor.

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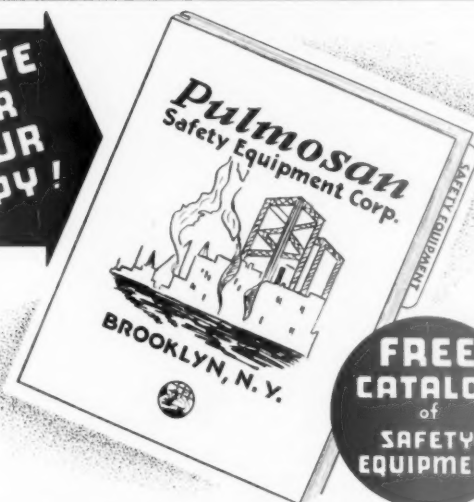
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Best regards for your success. \*

(Original Letter on File)

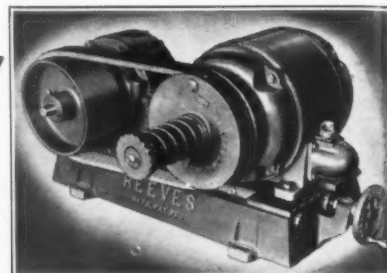
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minimum of time in application, the operation consisting merely of pulling the band up hand-tight, then turning the cotter pin with a punch or nail and clipping off the surplus band.

See coupon page 34

**VARIABLE  
SPEED PULLEY**

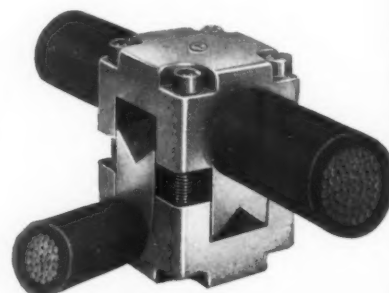


No. 165

**A**N assembly meeting the requirements of an installation that calls for considerable speed reduction plus the ability to vary speeds within given limits. It includes a variable speed pulley together with a sliding base for mounting the gear reducer unit. This arrangement permits direct drive from the motor pulley to the reducer.

See coupon page 34

**ELECTRIC  
CABLE  
CONNECTOR**

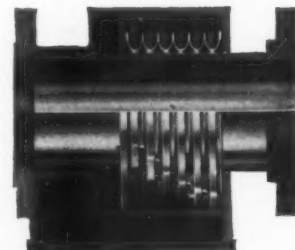


No. 166

**A** NEW type cable connector consists of three pieces — a top and a bottom section which are identical, and a center piece. The complete assembly is held together and the cables are clamped by tightening four socket-head cap screws. The top and bottom pieces can be reversed to accommodate a range of wire sizes within the limits of each of the three sizes in which the connector is available. One size takes wire sizes Nos. 4 to 1/0 inclusive; a second takes No. 1/0 to 500,000 cm. inclusive; a third takes 500,000 to 1,000,000 cm. inclusive. A standard package contains three connectors of one size, with three socket-head wrenches.

See coupon page 34

**PACKLESS  
EXPANSION  
JOINT**



No. 167

**T**HIS patented expansion joint for controlling pipe expansion in steam and hot water lines, or lines carrying gases and fluids subject to temperature variations, requires no service or maintenance, and is especially desirable in underground installations, inaccessible locations, or limited space. The ex-

pansion element consists of a series of die-formed U-rings, welded at one end to the wrought steel body of the joint and at the opposite end to a sleeve plate. Under operating conditions, the element is in a neutral position, free from flexing strain when under maximum line pressure. Control rings and stop-bolts distribute the movement equally through the U-rings. The joint is fully guided at three points, assuring free movement, without binding, throughout the complete range of traverse which is normally 1 to 8 inches.

See coupon page 34

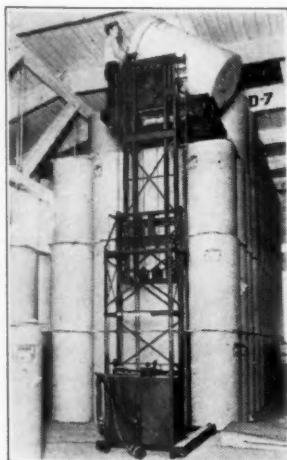


## PUMP OILER

No. 168

**B**EARING parts of rust-proof brass and steel domes copper plated inside and out result in an oiler that will not rust out of order and offers long and satisfactory service. Handles are angled so as to minimize apparent weight, and amount of oil ejected can be controlled by easy pressure on the lever. Three sizes: 12 oz., 1 pint, and 1 quart. Interchangeable spouts: vertical and horizontal, rigid and flexible.

See coupon page 34



## PORTABLE ELEVATOR

No. 169

**T**HIS new portable elevator, particularly designed for stacking newsprint rolls, has a telescopic frame of welded construction, 12 feet in height when fully collapsed and with a lifting range up to 20 feet. The steel platform measures 60 x 72 inches. A control and locking cable is located on each side of the unit, and the assembly includes a patented lifting and maneuvering handle, Alemite lubricated fittings, dead-man clutch and non-grabbing cable control.

See coupon page 34

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